PRESENT DAY TENDENCIES IN EDUCATION

BIZZELL - DUNCAN

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THE PREFACE

ONE of the most marked characteristics of this age is the gradual transformation that is taking place in our educational system. Not only are we gradually adapting the educational process to social demands, but we are, at the same time, adapting it to the needs of the child. The school of to-day is far in advance of what it was ten years ago, and the indications are that the next decade will see even greater progress in every phase of education. School men are studying educational problems more earnestly than ever before, and this study is already bringing a rich fruitage in a better understanding of child nature and of the means to be used in bringing about the complete and harmonious development of the child. To be sure, the conservatism of the school man and of others in charge of our educational system who have been educated under the old régime will, to a certain extent, impede educational progress and delay the practical application of the advance that has been made in educational theory; but, thanks to the progressiveness of the age and the reasonableness of the new educational principles, this conservatism is becoming less and less a factor to alarm us.

The greatest danger we see ahead is that both the school man and the school-board member will get the form without the spirit of the new education. In many cases it is evident that the new educational principles appeal to school officials and others chiefly because of their practical tendencies (and here we use the term *practical* in its narrow, material sense). This has aroused bitter opposition on the part of those who believe in the

old cultural phase of education and has caused them to cling to the old-time formal study with a greater tenacity than they otherwise would have done. To be specific, manual training and domestic science have been given a place in many schools because of their vocational value, and their cultural value has been lost sight of. As a matter of fact, the vocational value of these studies should not cause us to minimize their cultural value. For, by placing chief emphasis on the cultural phase of the practical study, we harmonize the practical and the cultural conception of education, and, by pacifying the extreme culturist, reduce to a minimum the time devoted to the purely cultural study. There should be no war between the two conceptions of education; for, if they are viewed in their proper light, there is no hostility between them. What is practical is cultural and what is cultural in the true sense of the term is also practical. The cultured man is not necessarily the man who has studied Sophocles, Euripides, and Horace; who is acquainted with graphs, convergent series, and Newton's laws, and is conversant with the lore of past ages; in fact, such a man may not be at all cultured in the proper sense of the term. The cultured man is the efficient man—the man who is acquainted with his physical, spiritual, and social environment and is able to influence conditions around him for the better. To get this conception of the educated man, we must follow not merely the letter but the spirit of the new education.

Another great impediment to educational progress is our inability to break loose from the past in educational practice. The school man has been a slave to conventional pedagogy, and it is next to impossible for him to break away from the stereotyped manner of doing things. While he is, in many cases, in favor of progressive idea

in education, he wants to absorb those ideas into the educational system as it is now organized. He wants to put the new wine into old bottles, when it is no more possible to put the new wine of progress into the old bottles of educational formalism than it was possible to put the living spirit of Christianity into the dead formalism of Judaism. The school as it is now organized is not adapted to the spirit of the new education. Its present organization is due to former conceptions of education, and when we change the spirit of education we must adapt the school organization to the new spirit. These new ideas cannot be tacked on to the old system, but they must permeate it through and through and cause its complete rejuvenation. Failure to grasp this important point has perhaps done more to impede educational progress than any other one thing.

In pointing out what seems to us the weaknesses of the present educational system, we do so, not in a spirit of pessimism, for we believe that the outlook was never more encouraging than at present; but we do so to indicate the lines along which effort must be made if we would enter into the spirit of the new education. In fact, the defects of our educational system are so glaring that they are to us a source of great hope for a speedy reform.

Many of the ideas expressed herein are familiar to students of educational thought of the times, but the extent to which these views have been accepted and applied varies widely. It is the belief of the authors that the various discussions contained in this book represent very definite and positive tendencies in education at the present time. Our object will be accomplished if this volume serves to make a little more accessible these modern views to the teachers in the ranks. It has been

our aim to emphasize those things that are necessary to bring us into the spirit of the new education and to make the child, instead of the book, the center of gravity in the school.

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CHAPTER I

EDUCATION FOR DEMOCRACY

THE purpose in the minds of the founders of public education was to make education accessible to all children. Horace Mann once said, "We will make a system of education which will make it possible for every child, rich or poor, to go to college." While Mr. Mann's conception of public education was different from that which progressive educators hold to-day, his idea was to educate every child. It is only on such a basis that he could have appealed to the people and have induced them to pay their taxes to support the schools. If the people had thought that the schools were to be run for the benefit of the chosen few, they would have let the chosen few pay the taxes.

The conception of public education held by its founders has now become general, and in every part of the country there are schools of all grades for all who will take advantage of them. The public is maintaining a system of public education which extends from the kindergarten, through the primary, elementary, and secondary schools, the college, and the university. The country is paying each year for these schools more than one billion dollars, and there are enrolled in them more than twenty million children.

SCHOOLS NOT YET DEMOCRATIC

Thus it would seem that public education has satisfied even the fondest dreams of its founders and that nothing more could be desired. However, a closer examination will show that these results are more apparent than real. In the first place, there is a great mass of the children of the country for whom the schools in general make no provision. The average public school makes no provision for the blind, the deaf mute, the feeble-minded, the subnormal, the delinquent, the anaemic, or the foreign. The program of the school has been laid out with a view to preparing the "average child" for college, but we are just beginning to see that this "average child" must be far above the average to do the work that is required of him. The founders of the public schools with their classical conception of education never thought of making provision for the child who was not strong enough to take the college-preparatory course. They were dominated by the social philosophy of the time, which held that "all men are created equal" and that it was within the power of every child of any significance to society to take the classical course; the *summum bonum* of all was to graduate from a classical college.

The founders of the public schools, too, had a false conception of the mental processes. They believed that the mind of the child in the beginning was like an empty bucket and that the end of education was to fill it. The question of varying capacity did not interest them, for they believed that all minds could with sufficient effort master the classical curriculum of the time. Even now it is a common saying among us, come down from the days of the American Revolution, that there is no limit to human capacity and that a man can do what he wants to do. If one man has mastered Latin, Greek,

and higher mathematics, another can. He may have to put forth a greater effort, but he can master them nevertheless.

We still believe that human capacities are limitless, but we have a somewhat different conception of what we mean by capacity. A man never absolutely reaches the limit of his growth along any line; but he reaches the point of diminishing returns along some lines sooner than along others, and finds it more profitable to turn his attention to other lines. The point of diminishing returns for most people in those old-time studies, such as Latin, Greek, analytics, and calculus, comes very early, and it will pay them to turn their attention to those subjects in which a greater exploitation is possible.

The failure to see that the varying capacities of children would render it impossible for many of them to be benefited by the old classical course caused the founders of public education to lose sight of the masses of the children. The great masses of the children of the country have received but little benefit from the public schools because the course of study has not been adapted to their needs and capacities.

Dr. Leonard P. Ayres of the Russell Sage Foundation says that only 12 per cent of the children who enter the public schools remain until they are sixteen years of age and that most of them leave during the next two years. In the report of the United States Bureau of Education for 1910 we find that the enrollment in the high schools of the country for that year was 915,061. The number of graduates from the high schools for the year was 111,363, and the number who were prepared to enter college was 37,811. In 1910 there were approximately eighteen million children enrolled in the public schools of the country. Thus we see that only 5 per cent of all

the children in the public schools were in the high schools, a little more than one-half of 1 per cent graduated from the high schools, and one-fifth of 1 per cent attended college. Only one-fifth of 1 per cent reached the desired goal. The others fell by the wayside.

If all the children were to stay in school, there would be at least 1,250,000 in each one of the grades, and there would be that many graduates each year. But how many are there as it is? There are 915,061 in the four grades of the high school, when there should be 5,000,000. There are 111,363 graduates, when there should be 1,250,000. Thus the graduating class is only 8 per cent as large as it should be. The question at once arises in the mind of every friend of public education: Where are the other 92 per cent?

An examination of the records of the schools in our own state will show that more than 50 per cent of the children enrolled in the elementary grades are from one to seven years behind where they should be, and conditions in the high schools are even worse. Under such conditions, can we expect the children to remain in school, and are we surprised that such a large percentage of them never reach the high school and that of those who do reach the high school 41 per cent are in the first year, 27 per cent in the second year, 19 per cent in the third year, and only 13 per cent in the fourth year? The statistics referred to above show that only about 12 per cent of those who enter the high school complete the course; and when we consider that less than 25 per cent of all the children ever reach the high school, and that only 12 per cent of that number take full advantage of the work that is offered them, we can see how far our schools are from reaching the standards of democracy.

In the United States there are more than twenty

million people attending school. Going to school is the business of about one-fifth of our total population. As stated before, the government is spending more than one billion dollars annually to furnish facilities for the schooling of this part of its population. It is doing this that they may be better prepared to perform the duties that will be placed upon them. The questions that we should honestly ask ourselves are: Is this money being spent to the best advantage? Could our schools be organized in such a manner as to bring a greater return on this vast expenditure? Many of our leading business men and educational thinkers are of the opinion that our schools are "slipshod, chaotic, mechanical," good in a few places, but for the most part not what they should be, and failing to give these twenty million people the training they need. It is certainly not a hopeful comment on the schools of the land that more than two-thirds of our boys and girls are forced to leave school before the age of fourteen years because the school program does not give them the necessary preparation for their places in the commercial, industrial, homemaking, agricultural, and political world where they belong.

BASED ON OUTGROWN THEORIES

No less renowned an educator than Dr. Paul H. Hanus of Harvard University says that "during the school period aversion and evasion are more frequently cultivated than power and skill," and that, worst of all, the boys and girls acquire during this period the "habit of being satisfied with inadequate or partial achievement." How could we expect results to be otherwise when we confine these boys and girls to such unattractive and, for the most part, for them absolutely useless subjects as technical grammar, ancient history, Latin syntax,

theoretical geometry, book science, and a dry survey of English literature? We say these subjects are good for the mental discipline they give and we satisfy our consciences with such an answer; but we must remember that the whole doctrine of mental discipline is questioned by some of the greatest educational thinkers of the times. We cannot afford to base so important a thing as the education of the children on a theory that is not definitely established, or, at least, on one that is questioned by so many of our educational thinkers. It may be said that the doctrine of mental discipline has never been disproved. In reply to that it can be said that it has never been proved, and it is incumbent upon those who would base our educational system on such a theory to prove it beyond a shadow of a doubt. They should not ask us to believe a thing just because our fathers before us believed it and it is customary to do so. Then, even granting that there is such a thing as general discipline, none would assert that it could be brought about unless there is close application to the study at hand, which is seldom the case with the subjects referred to above.

When we investigate what the boys and girls in the high schools are studying, what do we find? From the report of the United States Commissioner of Education we find that 83 per cent of them are studying Latin, French, and German, when less than 5 per cent of those who are studying these languages will ever have occasion to use them. We find that 88 per cent of them are studying algebra and theoretical geometry for the mental discipline they give, when no one knows whether there is such a thing or not. We find that less than 5 per cent of them are studying agriculture, a study of vital importance to our national well-being; and that less than 4 per cent are studying home economics, a subject upon

which the strength and hardihood and, in a very large measure, the happiness of our race depend. It seems that our schools are organized and conducted so that the boys and girls will think more of the ornamental studies and choose them in preference to those that are more essential to their well-being. They are thinking more of "dressing their minds in the prevailing fashion" than they are of satisfying their physical, mental, moral, and industrial needs.

Let it be understood that we are not making war on a classical education. It is doubtless a good thing for those who can take it; but any sane man can see clearly that it is not the thing for all the children and that it is not the thing for most of the children. However good a classical education may be in itself, experience has proved to us that the children are not going to take it. It is the grossest stupidity on our part to go on year after year spending our money to give the children that which they will not and cannot take. The book-minded child may profit by such an education; but the motor-minded child will receive no benefit from it, even though his parents and teachers succeed in cramming it down him.

NO PROVISION FOR INDIVIDUAL DIFFERENCES

The classical course is not a bad thing in itself; but it is not broad enough for a foundation for public education. It makes no provision for individual differences. The educational philosophy of the eighteenth century said that "all men are created equal and endowed by their Creator with certain inalienable rights," one of which is to get a classical education, and it made no provision for inequalities. However, in spite of such a philosophy and with all respect to Thomas Jefferson and his fellow philosophers, it does not take a very wise man

to see that all men are not created equal in this respect. One is created with a capacity for figures; another lacks such capacity. One is good in language; another cannot with the greatest effort master the subject. There are people who are geniuses along certain lines and imbeciles along others. We have all known of bright pupils in school who could not learn the multiplication tables. We have known of others who could not learn to spell, or to write, others who could not remember dates, or memorize. We have known a number of pupils who could not with the utmost endeavor learn Latin. We have known others who could not learn the simplest truths about mathematics. It is said that Charles Sumner, who was one of the greatest men America ever produced, could not learn mathematics. The great Agassiz was also a blockhead when it came to figures. Grant was a simpleton when it came to financial matters, and many others could be named. We must not think that just because a man is great, he is great along all lines. He may be extremely weak along certain lines, and in the case of the great majority of men this is true. We know their strong points, but never hear of their weak points, and to a large extent a man's success or failure depends upon whether his weak or strong points get before the public. Grant was regarded by all his neighbors as a very ordinary fellow until he found his life opportunity in the management of armies. Patrick Henry was regarded as a worthless dreamer until he was called upon to make a speech. Blind Tom, James Sidis, even Webster, and many other geniuses we know or have read about were geniuses on just one side; on the other they were very ordinary creatures. When we consider the people we meet every day, we find the same differences. Some have strong points along certain lines; others have their strong points along other lines. As the Scriptures

say, "There are diversities of gifts." "Are all apostles? are all prophets? are all teachers? are all workers of miracles? Have all gifts of healing? do all speak with tongues? do all interpret?" The answer is, Most surely they do not; but each has his gift according to the talents with which heaven has endowed him.

Every teacher knows that some of her pupils are good in drawing, others in arithmetic, others in language, and others in geography. It is the exceptional pupil who is good in all his studies, and we should not expect a pupil to be good in all. However, as a matter of fact, our college-entrance conception of education leads us to endeavor to make them all advance alike. We tie them together in the first grade and we endeavor to make them walk in lock step until they graduate. They must all study the same subjects, make the same grades, and do their work as nearly alike as possible. We want to educate them symmetrically and make them all-around beings. Oh, the sins that have been committed in the name of this word symmetry! We have been afraid that we shall produce one-sided creatures, and we have sought to make each child good in every subject taught in the schools. When a pupil is weak along a certain line, we tell him to let his strong points alone for a while and devote his attention to his weak points. The girl tells us that she cannot learn algebra, and we tell her that is all the better reason for her studying it. She must strengthen her weak points and be a symmetrical character!

Somewhere we heard a story of a man who thought that he could improve upon animal kind by developing in them gifts which they did not possess. As the story goes, he called the animals around him, and said to the lion that he must cease roaring and learn to moo like

the cow, and to the cow that she must cease mooing and learn to roar like the lion. The cat must learn to bark like the dog and the dog must learn to mew like the cat. The snake was good enough at crawling and must learn to fly like the bird, and the bird was good enough at flying and must learn to crawl like the snake. The rooster must learn to cackle and the hen must learn to crow; the duck must learn to gobble and the turkey must learn to quack. Each one was to neglect the things he could do well and the gifts that heaven had endowed him with, and endearvo to learn those other things that were foreign to his nature.

We can see the absurdity of this story, but we are blind to the equal absurdity of endeavoring to do with children what this man was trying to do with these animals. How many times have we told our pupils that their not being good in a subject is all the better reason for their devoting more time to that subject? Here is a boy who has no talent for language and cannot learn the subject; but he is good in physics. Do we let him devote his time to that subject in which it will count most, or do we tell him to devote most of his time to that subject in which he is weakest? We hold him fast to our formal course of study. If he fails in grammar, he is retained in the grade until he passes the subject or passes out of school, and experience has proved that most frequently he passes out of school. We are more willing that a hundred such little ones should perish than that one jot or tittle of our requirements should not be met. It is true that we are beginning to differentiate our course of study for the high school to some degree at least, and the pupil may, in a measure, adapt the work to his aptitudes and needs; but the wall that separates the high school from the grades is so high and the watchmen are so diligent that few there be that go over it. We allow

the pupils to go from the fifth grade to the sixth, or from the sixth to the seventh, without so much restriction; but when they knock at the door of the high school from the seventh grade, they must have the proper password and sign, or there will be no admission.

Mr. Smith in his book on *All the Children of All the People* has a chapter on "Sympathetic Vibrations" which illustrates this point as well as anything we have ever read. Those who have studied physics, and many who have not, know what is meant by "sympathetic vibration." If we put a tuning fork firmly on its foot on one end of a table and another of the same pitch on the other end, and cause the first to vibrate briskly, in a few seconds the second will begin to vibrate in sympathy, and even though we may stop the first, the other will continue to vibrate for several seconds. However, if the first fork is an A, and the other a B, we may pound on the A as much as we please and the other will be as mute as death. Its lack of vibration is not due to its not being a good fork. It is just as good as any fork, and all it needs is to have the fork on the other end of the table tuned to the same pitch.

If we place on one end of the table a row of forks of all pitches except an A, and set an A to vibrating on the other end, we shall get no response. We may pound on the A as much as we please, but there will be no response. But when we cease trying to get a response by hammering on the A, set up a C, and give it a gentle tap, the C on the other end of the table will begin to "hum" most beautifully. There is no trouble in getting a response when both forks are keyed to the same pitch; but, otherwise, we may pound until we knock the fork out of place or batter it to pieces and not get a movement from the other end of the table. We may try to make

ourselves think, as Mr. Smith says, that we get a response; we may manipulate in such a way as to make others think that there is a response; but we may be perfectly sure that, if the two forks are not keyed to the same pitch, one will not vibrate with the other. This is an excellent experiment—one that would teach many parents and some teachers we know a valuable lesson if they would try it.

Now most boys and girls are like that row of tuning forks. They have one or more tones missing. In one it is an A, in another a B, in another C, and in still another a B and a C. It is the exceptional boy or girl who has all the tones and is able to respond to all the different vibrations. However, we are conducting our schools as though all the boys and girls were complete with every tone present. The grammar tone, the arithmetic tone, the Latin tone, the ancient history tone, and the algebra tone are all supposed to be in their places. The teacher gets off across the room, strikes the algebra fork, and expects to get a response from all the pupils. If she does not, she feels that there is something wrong with those pupils who do not respond, and she is right about it. The algebra fork in those particular pupils is missing. However, the pupils are not to blame for this. God made them that way, and the clay has no right to say to the potter, Why have you made me thus? Besides, if the teacher will cease pounding the algebra fork, and tap even gently the language fork, she will get a most beautiful "hum," and the "hum" is the thing. There is nothing accomplished without it. You may get a false "hum"; but you cannot get a genuine response, a response that has educational value, unless the subject causes a sympathetic vibration in the soul of the pupil. There is no fact in pedagogy more clearly demonstrated than this;

and the other fact, too, that different children will respond to different subjects is equally well established.

NEEDS OF THE CHILDREN NOT RECOGNIZED

We have failed to adapt the work of the schools to the needs of the child and we have sought by merely pounding to get a response; no one knows better than the teacher how deathlike is the silence in most cases. It is drill, drill, drill, coax, persuade, threaten, and a hundred other things, day after day, until her life is almost worn away, and yet many of her pupils seem totally insensate to her efforts. The pupil stands it as long as he can, this hammering and pounding, until one morning his seat is vacant and he has left school to take his place in the world, unprepared for its problems. The teacher usually rejoices that he is gone, for her burdens will be considerably lighter; but really she should not rejoice. There was nothing wrong with the pupil. The trouble was that she had not struck a responsive chord in his soul. She was too intent upon driving into his consciousness certain textbook information and lost sight of the boy himself. However, the teacher is not to blame. She is laboring under a system that is ruthless in its requirements and tells her that she must do these things just as she does do them. The school board is not to blame, for public opinion makes demands on it in no uncertain terms. Thus it goes on from year to year, and the children are being sacrificed to the Moloch of the traditional classical college.

Of course, there are some fundamentals every child must have. Every child must learn to do the figuring necessary in business; he must learn to speak and write effectively so far as he will find it necessary to do so in everyday life; he must learn to read and acquire a taste

for reading; he must learn to spell the words he uses in his writing; and he must learn to write a legible hand. Every child must meet these minimum requirements whether it suits his fancy or not. But there is little doubt that the minimum requirements in these studies can be met without the difficulties we are having at present. The arithmetic the average person needs in business includes less than one-half the topics we are now trying to teach. Let us teach these necessary topics thoroughly and in connection with subjects in which the child is interested, and not make life a burden to him by trying to make him learn aliquot parts, compound proportion, compound interest, cube root, and a dozen other such topics as should never have been put in an arithmetic for children. The same is true of our language work in the schools. Nine-tenths of the formal grammar we teach in our schools could be eliminated and no one would be any worse off. The child needs practical drill in language and not so much theoretical drill in formal grammar, most of which he forgets as fast as he learns it.

In spelling we drill the child on thousands of words he will never use. The average business man does not use over 2,500 words, and the child could learn to spell these without much trouble. There are 180 days in a school year, and in seven years, by learning to spell two words a day, the child would know how to spell 2,520 words. But, as it is, we give him ten or fifteen words a day, and in many cases more. He spreads his attention over so many words that he does not learn to spell even the common words in the average man's everyday vocabulary.

The same is true of the other fundamental studies. We should strip them of their superfluities and require the child to learn only the minimum essentials. He

could do this in much less time, with much less worry to himself and the teachers, and more thoroughly than at present. Instead of acquiring habits that will militate against his success in his later school and life work, he should be forming those habits without which success is impossible. The minimum essentials in the subjects referred to above should be completed by the end of the sixth grade, and, from there on, the child should be introduced to a rich, differentiated program of work and studies that will find a response in his life. The course of study in the last five grades of our schools should be broad enough to meet the needs and capacities of every child. It should satisfy the book-minded child who wants to prepare for college—either the classical college or the technical school; and it should satisfy the motor-minded child who wants to work with his hands. Manual training, including work in wood, metal, stone, concrete, cooking and sewing, agriculture, horticulture, weaving, basket making, etc., should be accessible to the child who "hums" to such things. Let us remember that work of this kind possesses a great educational value in helping the child to bring about a proper coördination between his nerve and muscle centers, and this is a most important phase of education. We must have a broader onception of our work than merely to give the child a little knowledge he will need in practical life, or certain information educated people are supposed to have. We must educate the child, and this means that we must develop his latent resources, whatever they be. But we must not be so foolish as to try to create in him powers he does not possess.

We do not mean by such a program as here suggested to leave the work of the schools to the whims of the child. But we are to study the child, his aptitudes and capacities,

and arrange his work accordingly. We are not to leave the work to the fancy of the child any more than the skilled dietitian would leave the child's eating to his fancy. The dietitian would study the food needs and capacities of the child and then hold him strictly to such a regimen, whether it suited his fancy or not. So we must make out our school regimen to meet his needs and capacities and hold him to it in the same way. Such a program would possess all the virility that the old standpat educator could desire. It would hold the child's interests and attention, cause him to put effort into his work, and keep him in school until he had finished the course.

TRAINING FOR SERVICE

We must remember, too, that the great issue in American education to-day is vocational training—not the vocational training that is narrow, enslaving, but that which gives a broad outlook on life and prepares for complete living in the fullest sense of the term. Our government owes it to our boys and girls to teach them how to make a living. It owes this to them first and it should pay this debt first. Then, if it has time, it should pay the other debts it owes. While the problem of vocational training has been attacked in a few places, it is wholly unsolved in the country, and we have no right to boast of our educational system until we have made it possible for every boy and girl to have that training necessary to happy and successful lives. Before a recent Congress it was declared that of the twelve and a half million people engaged in agriculture in the United States, not more than 1 per cent had had adequate training; and when we investigate other industries, we find conditions not much better. Before we lead the world in democracy, we must see that every boy and girl, high and low, rich and

poor, backward and precocious, the normal and the subnormal, the blind, the deaf, the crippled, the foreign, the feeble-minded, all have just the training that will best fit them for their places in the world and help them to live the best lives of which they are capable. We must not be satisfied with filling their heads with a little exclusive information, but we must bring them into touch with those things and conditions that will help to bring to light their hidden powers and resources.

Education for democracy means education for service. It places on each member of the race a duty and a responsibility for the well-being of every other member. It teaches us that no man can live to himself, and that the chief aim in life is not to gratify our own selfish desires, but to help our neighbor live the best life that is possible for him. The greatest man in the world's democracy will not be the one with the greatest amount of wealth, nor the one who is able to control the greatest amount of labor and capital; but he will be the one who is able to render the greatest amount of service to his fellows. To attain the highest ideal in education, we must have the conception of education of Him who "came not to be ministered unto, but to minister, and to give his life a ransom for many." We must have as our aim the preparation for service rather than preparation to be served, and to this end we must think less than we do of education as a veneer to be placed on the outside and more of that true culture of the heart which makes our sympathies go out to those whom we may serve. The quasi-culture we have been honoring in the past must take its place with the other relics of barbarism which the race is fast discarding.

We have not gone far in our educational system in substituting the ideal of service for the other ideal of

being served, but it is gratifying that we have made a start and have our faces turned in the right direction. We have begun to change our schools from places where only a few may receive a little exclusive information to places where all may work together in preparation for lives of service. The school of the future will not be exclusively an institution of learning; it will also be an institution of doing, and there our boys and girls will learn to work with their hands, to think with their heads, and to love with their hearts. The school workshop, the school kitchen and home training department, the school business training department, and the school farm are working a revolution in our educational ideals, and, no doubt, the school of the future will be a far different institution from that of to-day. The ideal of service will be its chief motive power, and each teacher will regard it as her mission to cause this ideal to permeate the minds and hearts of the boys and girls that the world may be made and kept "safe for democracy."

Topics for Report and Investigation

1. Horace Mann's conception of public education and its influence on the history of education in the United States.
2. Mortality in the public schools and its causes.
3. The place of the classics in an educational system.
4. The varying capacities of school children and their significance in education.
5. The defects of our public-school system when viewed as a means of preparing for citizenship in a democracy.

Further Readings

Chamberlain, Arthur H. *Ideals and Democracy.* Rand McNally & Co.

Davis, Calvin O. *Public Secondary Education.* Rand McNally & Co.

Dewey, John. *Democracy and Education.* Macmillan.

Kerschensteiner, Georg. *Education for Citizenship.* Rand McNally & Co.

Lewis, William D. *Democracy's High School.* Houghton Mifflin Co.

Moore, Ernest C. *What Is Education?* Ginn & Co.

Smith, William Hawley. *All the Children of All the People.* Macmillan.

Weeks, Arland D. *The Education of To-morrow.* Sturgis & Walton.

Weeks, Ruth Mary. *The People's School.* Houghton Mifflin Co.

CHAPTER II

LEARNING AND DOING

IT WAS the opinion of the ancient Greek philosopher Anaxagoras that the superiority of man over the brute creation was due to his having hands. It would, of course, be impossible for us to prove or disprove the correctness of this statement; but, judging from the nature of the mind and the manner of its development, it is very probable that if God had made man without hands he would have been but little, if at all, superior to other animals. Nothing stimulates the intellectual faculties more than manual activity. When man began to construct, he began to think, and thus his intellectual development was brought about. If he had had no hands, he would not have come in contact with natural forces, nor been compelled to master their laws, and these laws would have meant no more to him than they do to the brute creation. His intellect would not have been quickened by his effort to influence his environment to serve his needs, and, since he would have had no opportunity to apply the materials of his observation, his senses would have remained inert and have dwindled away. Indeed, it is impossible for us to conceive of man without the power of expression through manual activity. Man is naturally a maker of things, and this instinct has done more than any other to give him his present symmetry of body and grace of bearing, his superior intellect, and his beauty of soul. His ability to do and to make things is that which causes him to be in the image of his Creator.

THE MIND AND THE HAND

So intimate is the relation between the hand and the brain that one reflects the power of the other. The hand of the intelligent man reflects that intelligence in its every movement. It looks intelligent and its touch gives the impression of intelligence. The fact is that there is the same intimate connection between the muscles of the hand and the nerve cells of the brain that exists between the muscles of the face and these nerve cells, and the intelligence of a person is indicated in the movement of his hands just as accurately as it is in the expression of his face. The muscles of the hand are directly connected with the brain, and when the mind develops, this development manifests itself in the movements and expression of the hand. The hand of the idiot is as expressionless as his face; it is listless and lacks the power of accurate movement. It lacks intelligence in its touch; when you take hold of it, it feels clammy and lacks the warmth and vitality of the intelligent hand. In fact, one of the most common methods of testing mentality is through the movements of the hand—its ability to thread a needle, to lace a shoe, to button clothes, and to do many other things for which accuracy of movement is required. Sequin, the great French-American physician, did more than any other man to improve the method of training the feeble-minded, and the secret of his success was due to the emphasis he placed on manual activity as a means of development. He saw the intimate relationship between the mind and the hand and sought to reach the mind through the hand. He believed that for the feeble-minded child the hand was the best organ of perception, and since his time others have been of the opinion that it is the best organ of perception, not only for the feeble-minded, but for the normal-minded

as well. It is believed to be more directly connected with the brain than the other sense organs; at least through it the mind is more easily aroused. Montessori at first saw the importance of manual activity as a mind-awakener when dealing with the feeble-minded children, and she reasoned that what will do so much for a feeble-minded child is also good for the normal child. This led to the establishment of the Children's Home that has aroused so much interest in educational circles the world over. There are two important ideas in Montessori's educational philosophy—freedom and manual activity. The latter is the more important of the two, for it is extremely doubtful whether there could be freedom until the child's interest has been aroused in his work through manual activity.

The hand is a better revealer of character than the face. The face can be made to express what it does not feel, but not so the hand. It is always frank, open, honest, for man has not yet learned to control its expression so as to deceive. Helen Keller says: "Not only is the hand as easy to recognize as the face, but it reveals its secrets more openly and unconsciously. People control their countenances, but the hand is under no such restraint. It relaxes and becomes listless when the spirit is low and depressed; the muscles tighten when the mind is excited or the heart is glad, and permanent qualities stand written on it at all times."

This all goes to show that there is an intimate relationship existing between the hand and the mind, and that whatever affects one affects the other. The hand not only reflects the states of the mind, but it has much to do in making these states what they are. The nerves of the hand tie it to the brain in a most intimate relationship and it is this relationship which makes the hand an

important factor in education. Angelo Mosso, the celebrated Italian specialist, says: "The mutual relation of intelligence and movement is a most constant factor in nature." It was his opinion that the intellectuality of the Greeks was due to the emphasis placed on exercise. He thought that the more facile an animal was in the movement of its limbs, the more intelligent it was; that the elephant is more intelligent than most other animals because he uses not only his legs, but also his snout, as organs of movement. He held that man shows his superiority over the lower animals as much in the facility of his movements as in the power of his mind.

RELATION OF PHYSICAL AND MENTAL TRAINING

President G. Stanley Hall says:

> The cortical centers of the voluntary muscles extend over most of the lateral psychic zones of the brain, so that their culture is brain building. Every change of attention, and of psychic states generally, plays upon them unconsciously, modifying their tension in subtle ways, so that they may be called the organs of thought and feeling as well as of the will. Habit even determines the deeper strata of belief; thought is repressed action; and deeds, not words, are the language of complete men. The motor areas are closely related and largely identical with the psychic, and muscle culture develops brain centers as nothing else yet demonstrably does. Muscles are the vehicles of habituation, initiation, obedience, character, and even of manners and customs. For the young, motor education is cardinal; and, for all, education is incomplete without a motor side.[1]

Educators and psychologists are virtually agreed on these basic truths. Ex-President Eliot of Harvard University says: "Accurate work with carpenter's tools, lathe, or hammer and anvil, or violin, or piano, or pencil, or crayon, or camel's hair brush (and we might add the scissors, the needle, and the rolling pin) trains well the

[1] *Youth*, pp. 7, 8, 9.

same nerves and ganglia with which we do what is ordinarily called thinking." Professor F. W. Parker says: "It is impossible to do all-sided, educative work without training in hand work. Manual training is the most important factor in primary education, and it remains a prominent factor in all education." Again, he says: "Making has done more for the human race than the exercise of any, if not all, of the other modes of expression. It is absolutely indispensable to normal physical development; it has a mighty influence upon brain building." Professor John Dewey says: "The child who employs his hands intelligently in the schoolroom, in due proportion is satisfying one of the most powerful interests within him. He is cheerful, he is a picture of health, and his best emotions and impulses are easily kept active." Again, he says: "The greatest mistake in education consists in shutting children away from nature, and in trying to teach them almost entirely from books."

It is strange that we have been so long finding out these important truths, and stranger still that after we have discovered them, and have them proved to us beyond a shadow of a doubt, we do not make use of them. We go on in the same old way and pay but little attention to what we have learned. Although we know that it takes the motor side of education to make it complete, that "deeds, not words, are the language of complete men," we go on with our work as though we did not know it.

THOUGHT AND ACTION

One of the cardinal truths in education is that the hand and the mind are parts of the same system; one cannot be developed without at the same time developing the other, and when we act on one, we influence the other. Heretofore we have been working with the brain,

and have made no conscious effort until recently to reach the mind through the hand. We have just half completed the cycle; and, instead of developing "complete men," we have made *knowing* the end of our work, and have failed to establish the proper relation between thought and action. The products of our schools have been accused of being one-sided, theoretical, visionary, out of touch with real things, and, if President Hall is correct in saying that "deeds, not words, are the language of complete men," the accusation is just. We have been too much under the influence of the Ciceronian philosophy, that "to live is to think," not realizing that "thought is repressed action" and incomplete unless it becomes action. The man who thinks is but half a man; to be complete, he must execute his thoughts and give them concrete form. Indeed, a man cannot do normal thinking without stopping to execute his thoughts and to test their accuracy by applying them to actual conditions. Thought arises from things, and, to be kept accurate, it must be constantly referred back to them. Thought is impossible without words, and it is equally impossible without the things from which it arises. As there is no sound without the ear, no light without the eye, so there is no complete thought without the object to which it belongs.

Francis Bacon, the founder of modern philosophy, is also the founder of modern education. When he laid aside the old deductive philosophy of Aristotle and the schoolmen, and based his philosophy on induction, he knocked the props from under the system of the abstract word "education" of the Greeks. In saying that we must base our reasoning on things, he also said that we must base our education on things. He saw that, as the system of deductive philosophy of the Greeks had led them far from the truth, so had their educational system

based on words led them far out of touch with actual conditions; hence he decided that the "end of man is an action, not a thought"; that "education is the cultivation of a just and legitimate familiarity between the mind and things."

CLINGING TO PAST IDEALS

The conservatism of men in education is nowhere demonstrated more clearly than in their clinging to educational principles long after the reason for doing so no longer exists. No one will doubt the advances that have been made in the scientific world as a result of the Baconian philosophy. In fact, since Bacon's time, the world has been made over. We have entirely cut loose from the past in medicine, physics, chemistry, and the other physical sciences, and no one would think to-day of basing research in these sciences on deduction. We gain our knowledge of them from a study of things. What the ancients gave us in them has been brushed aside as worthless rubbish. But in education we still cling to the past, although there is every reason to brush it aside that there was in the case of scientific knowledge. In fact, educational principles must go hand in hand with scientific principles, or they are worthless. Plato said, "All the useful arts are degrading, and the end of education is to cultivate the thinking powers," and we are willing to risk all on his judgment. At the time of the Renaissance, when men were digging from their hiding places the manuscripts of the Greeks, some fellow happened to dig out this philosophy of Plato, and it has had such a tremendous influence that to-day we are unable to break loose from it. Our educational system is largely based on words because Plato, on one bright morning two thousand years ago, happened to feel a little lazy and

gave expression to the feeling that he was glad he did not have to work. He lived in a land where useful work was performed by slaves, where all labor was menial, and he knew nothing of the useful arts as we know them to-day. However, had he even looked into things a little more clearly, he would have realized that it was the work of men's hands that gave Athens its chief glory and made it the admiration of the ages.

Bacon, by his system of inductive philosophy, has done much to overcome the evil of Plato's philosophy and has paved the way for the union of thought and action, which should never have been divorced. Comenius' aphorism "Learn to do by doing" leads in the same direction. In fact, all great educational thinkers have emphasized the importance of maintaining the proper relation between thought and action. Pestalozzi, Froebel, Horace Mann, Herbert Spencer, G. Stanley Hall, Dr. Eliot, and Montessori have all brushed aside the philosophies of Plato and Aristotle and hold that the end of education is to cultivate the proper relation between thought and action. The reason why the lost relationship is not restored in practice is because of the conservatism of the man who has direct control of educational practice, because of his lack of adaptability and his failure to catch the spirit of the reform.

It is strange that so few of our leading school men have caught the spirit of the kindergarten and of manual training. They have caught the letter, and we have kindergartens and manual training schools in abundance; but few have caught the real spirit of the relation between thought and action, of the relation between the motor and the psychic states. In many places manual training is emphasized because of its vocational value, and this has raised a storm of protest from the culturist who

abhors the material. This has made its progress slower than it would have been had its true meaning been understood. For instance, few of our best schools have caught the full meaning of Ruskin when he said: "The youth who has once learned to take a straight shaving off a plank, or to draw a fine curve without faltering, or to lay a brick level in its mortar, has also learned a multitude of other matters which no lips of man could ever teach him." Rousseau said: "The student will learn more in one hour of manual labor than he will retain from a whole day's verbal instruction; that the things themselves are their best explanation."

THOUGHT AND ACTION NOT DIVORCED IN PRIMITIVE EDUCATION

In outlining our educational system we can learn a wholesome lesson from our half-civilized forefathers. The primitive man never thought of divorcing thought and action; in fact, he emphasized the action and was willing to let the thought take care of itself, and what progress he made in his manner of living was due to this fact. He never gave his son book lessons in the use of the bow and arrow or the tomahawk; but he placed these weapons in his hands and let him learn through practice. He learned to fish by fishing; he learned to spear by spearing; and he learned to swim by swimming. We have every reason to believe that his intellectual progress kept pace with the progress he made along practical lines. We have no reason to doubt that the American Indian's intellectual attainment kept pace with his ability to use the weapons of the hunt and warfare in practice. In fact, from the very nature of things, it must have done so. The primitive man was compelled to be a believer in the practical, and it was only when education was taken out of the

hands of the practical man and put into the hands of priests and other men of leisure that there was a failure to maintain the proper relation between the theoretical and the practical. This class feeling that labor is degrading has caused us to divorce the science from the art and to emphasize in our schools history, mathematics, and literature, without the practical application of these to actual conditions. In fact, our education, under such conditions, has left off at the point where it was beginning to be of service.

Nothing has done more to corrupt the morals of men than the idea that it is beneath the dignity of the gentleman to engage in manual labor; and nothing has done more to raise moral standards than the turn education has taken during the last few years in the direction of the practical. The man who deals in words alone is sure to wander far from the truth. He thus cultivates the habit of being out of line with truth. On the other hand, the man who never stops with an idea until it is expressed in tangible form is constantly measuring his ideas by the truth and cultivates the habit of honesty. The man who works with his hands cannot deceive, for his work is there to show for itself. The false with him is certain to be exposed; but with the man who deals in thought alone, and never seeks to test the accuracy of that thought by applying it to realities, all is mere speculation, and there is not cultivated in his mind that love of truth which is characteristic of the worker; hence it is not without reason that we speak of the "honest sons of toil."

EDUCATION BASED ON WORDS LEADS TO CONSERVATISM

Another weakness of a system of education based on books is that it tends too much to conservatism. The man who studies books has his face turned toward

the past. He is constantly looking to the past as the golden age of the world. As long as men were dominated by the deductive philosophy of Aristotle, they made no progress, because they were tied securely to the past. This looking backward, perhaps, did more than any other thing to bring about the stagnation of civilization that caused it to sink so low during the Middle Ages, and we have every reason to believe that it would have gone even lower had it not been revived by coming in contact with real things.

The upper classes in all countries have always been the conservative classes, because they have not been compelled to labor and have devoted their time to mere intellectual pursuits. In the English government the conservative element has been the House of Lords, and it has been driven to every reform by the man who worked with his hands. The House of Commons has taken the lead in every progressive governmental reform, and the more it has gotten into the possession of the thinker, the more conservative it has become and the more it has become necessary for the worker on the outside to bring pressure to bear. The man who works with his hands and deals with actual conditions can easily go from the things that are to what they ought to be. He is constantly seeing room for improvement and is by nature a reformer. The world stood still as long as it was ruled by the mere thinker, and it began to move forward when Bacon taught men that "education is the cultivation of a just and legitimate familiarity between the mind and things." Youth is progressive because it is the time of action; old age is conservative because it is the period of thought and inactivity. The man who ceases to act loses his adaptability and is, for this reason, a conservative.

WORK AS A FACTOR IN EDUCATION

The need of the times is the creation in the minds of boys and girls of a proper attitude toward work. At present the average boy knows but little about real labor, and his aim is to avoid it. Indeed, he has been taught by his elders that the chief purpose of his schooling is to prepare him to make a living without work, and his aim is to enter some vocation where little manual labor is required. This attitude toward work has caused such a tremendous movement from the country to the town and city that the very foundation of our social institutions is threatened. The movement toward the education of the masses without changing our educational system to meet their conditions and needs, has tended to fill them with the ideals of the old system, and this has resulted in the growth of a great host of professional and semi-professional men who have a false attitude toward the world's work and whose chief purpose is to make a living without work. There are thousands of men in our towns and cities to-day eking out a miserable existence, of no use to themselves or to anyone else, who would have made useful members of society had they been trained to have a proper conception of labor. They have been trained to think it degrading to work with their hands, and they would rather undergo any kind of hardship than put on their overalls and go into the workshop, to the farms, or into the factory.

The feeling of contempt for labor has influenced women even more than men. The average woman has no proper conception of work and feels that manual labor is degrading. In many cases her training has led her to believe that it is her part to have a good time and that others must minister to her wants and even to her whims. The average girl knows nothing about work because her

mother, laboring under a wrong conception, has done all the work around the home in order to give her daughter time to devote to her music and other studies. The daughter, from the beginning, is freed from all responsibility; no wonder that when she comes into a home of her own she has no proper conception of her part in helping to carry its burdens. Mother has shielded her from responsibility during her girlhood; no wonder that she expects her husband to do the same during her womanhood. The sad part is that, in the great majority of cases, the husband is not able to do this; and thousands of women, brought up to shirk responsibility and to have a good time, are compelled, when they come into homes of their own, to do their own work, and, not having been trained to have a proper conception of it, live miserable lives, feeling that they are doing that which is unworthy of them. This would not be the case if the work idea were given a more prominent place in our schools and our girls were compelled to do work, and to have a proper attitude toward it. The greatest weakness of our schools is the lack of definiteness. This weakness is shown nowhere more forcibly than in their failure to train the girls for the work they will have to do when they come into practical life. While about 95 per cent of them will sooner or later become homemakers and have to meet the responsibilities of wifehood and motherhood, their school course seems to be laid out wholly with a view to their enjoyment of their leisure. Music, literature, and art have their places in the education of girls, but they do not belong in the same class with domestic science and art, or training for homemaking. Everything in the girl's course should prepare her for the work she is going to do. It should all be arranged with a view to giving her a proper attitude toward her work; for whether she

loves her work in the world or not will depend upon the ideals instilled in her mind in the schools. If our girls in school were trained to love work and to have a proper attitude toward it, cooking, sewing, and the care of home and children would be as fascinating to them as those things in which they now take pride. Not only this: they would be better physically, mentally, and morally. They would be happier, and would make everybody around them happier. They would make their homes brighter, happier, and more prosperous, and would restore them to their proper place as the bulwarks of our civilization.

EDUCATIONAL PHILOSOPHY OF JESUS

Manual activity not only develops mental and moral strength, but it develops character in the highest sense of the term by putting our ideals in the proper plane. It was not without reason that the Great Teacher said, "He is greatest who is the servant of all." He had a deeper insight than any other man into human character and knew better than others what it takes to develop it. He understood better the great secret moral forces of the universe and saw that the ability and willingness to serve was at the bottom of all true growth. He realized that such an educational philosophy as that of Plato would lead to weakness of body, mind, and soul, and he set over against it his ideal of greatness through service. His reply to the world's philosophy of selfishness was that "even the Son of man came not to be ministered unto, but to minister, and to give his life a ransom for many."

After ninteen hundred years we are just beginning to understand this philosophy of Jesus. So deeply was the opposite conception imbedded in the minds of men that it

has taken and will yet take a long time to remove it. It is hard for us to realize that the lord of creation is the man who works with his hands in a service of love for others. For some time we have realized that work with the hands develops physical strength; we are just beginning to realize that it also develops mental and moral strength; and here comes the Great Teacher to tell us that it also gives us mastery of spiritual forces and makes us lords of creation: "He that would be greatest, let him be the servant of all." Not until we thoroughly understand this philosophy, and have based our institutions on it, shall we attain the highest conceptions of life. We can see now the emptiness of the ancients' conception that he is greatest who has at his mercy the greatest number of human lives. We no longer regard Alexander as great because he ruled the world; we even regard him as the weakest of men because he was unable to rule himself. We have little regard for the medieval lord whose greatness was measured by the number of his vassals. We have little sympathy with the pre-bellum conception that he was greatest who had the greatest number of slaves. In the business world we no longer tolerate the selfish business methods of a Harriman or a Rogers, and the world is against Kaiser Wilhelm for plunging it into a war to gratify his own selfish ambitions. This all goes to show what progress we have made toward the ideal that Jesus gave the world of greatness through service. But, in spite of the progress that has been made, we are far from a complete understanding of his message and farther still from an application of his ideals in practice.

It is strange that whatever progress has been made toward this conception of greatness through service has come in spite of our educational system. Our schools

have stood in the way of such progress and have endeavored to inculcate in the minds of boys and girls the ideal of greatness through the mastery of the lives of others. They have based their work on the philosophy of Plato rather than on the philosophy of Jesus; and, if they are to become the great factors in moral progress that they should be, we must revise their work and bring it into harmony with those great moral forces that are working on the outside. The school program must be arranged so as to prepare boys and girls for lives of service. The school must teach the dignity of labor by making the workshop a part of its equipment. Boys and girls must continue to study books, but to study them, not as an end in themselves, but for what they contain that can be used in a life of practical service. In the ideal school the student will be given an opportunity to make a practical application of every idea he gains in his study or observation. He will not be required to go on day after day, month after month, or even year after year, as is now the case, without being able to test the accuracy of the knowledge he has acquired; but he will be given an opportunity to apply it as he acquires it. In the school of the future all forms of manual activity will be given a prominent place because of its importance not only in developing physical, mental, and moral strength, but in arousing the pupil's self-activity, which will bring about his complete development. Manual activity will become an important feature of the educational system of the future, because, to quote from Francis W. Parker, "the foundation of education consists in training a child to work, to love work, to put the energy of his mind and body into his work, to do that which best develops his body, mind, and soul; to do that work most needed for the elevation of mankind."

Topics for Report and Investigation

1. Work as a factor in the education of children.
2. Manual activity and moral training.
3. The educational philosophy of Jesus, as seen in the Four Gospels.
4. The correlation of knowledge gained from books with that gained from practical affairs.
5. The system of school credit for home and industrial work.

Further Readings

Gesell, Arnold L., and Beatrice Chandler. *The Normal Child and Primary Education.* Ginn & Co.

Hall, G. Stanley. *Youth: Its Education, Regimen and Hygiene.* D. Appleton & Co.

Ham, Charles H. *Mind and Hand.* American Book Co.

Hughes, James L. *Froebel's Educational Laws*, pp. 248–259. D. Appleton & Co.

Lee, Joseph. *Play in Education.* Macmillan.

Row, Robert K. *The Educational Meaning of the Manual Arts and Industries.* Row, Peterson & Co.

Tanner, Amy Eliza. *The Child.* Rand McNally & Co.

CHAPTER III

SELF-ACTIVITY IN EDUCATION

BY SELF-ACTIVITY we mean the activity that originates with self. It is the activity in which the whole being is enlisted. In activity the pupil may be putting just a part of himself into his work, and this is more than likely to be the case; but in self-activity all the powers are absorbed in the work at hand. They are used to their limit, and there results a symmetrical growth; it is extremely doubtful whether there is any real development unless there is a harmonious use of all the faculties. Whenever we use a faculty, it will grow, but there is a difference between growth and development; there is also a difference between the development of one faculty and the harmonious development of all the faculties. The pupil who is self-active is like a plant in a wholesome environment, with a rich soil, plenty of air, rain, and sunshine adapted to its needs. Such a plant grows from within outward and is harmoniously developed because it has found its proper environment. So the self-activity of the pupil indicates that he has found an environment suited to his needs.

Self-activity does not mean that the pupil is to be left to his own whims. It does not mean that he is to pass from one thing to another until he finds something that suits his fancy. It does not mean that he is to select his own course of study, or his own methods of study, for very often he does not know what is best for himself. He does not know what his needs are, and the greatest task of the teacher is to study the characteristics and needs of each particular child until she knows his needs better than the child knows them himself. The dietitian

studies the child's needs and the nature of the several foods so that he is able to adapt the one to the other. This is just what the teacher must do; she must be so well acquainted with the child's mental and moral needs that she will be able to adapt one to the other with exact precision. When she has done this, the child will appropriate as his own that which she has laid out for him, and will be self-active in its performance. The external stimulus of the teacher will become the internal stimulus of the pupil.

Then there is another important phase of self-activity that we must not overlook. There is such a divergence between the instinct of the child and its execution that we cannot always be sure that the method of execution we have selected for him is in line with his instincts. The child has the instinct of curiosity, for instance, but that instinct does not manifest itself long when he is brought face to face with the multiplication table. Civilization has side-tracked him, as it were, and he is often compelled to do things that his natural instincts do not call for. He must learn the mechanics of reading before he can read and thus fulfill his natural desire for the acquisition of knowledge; he must learn the mechanics of numbers before he can satisfy his felt number needs; and in almost every line of work he takes up, there is a mechanical side that must be mastered before the real subject can be enjoyed. There is a period of drudgery which every child must go through with; but in most cases, the prospect beyond will lead him through this darkest-period-just-before-dawn without much trouble.

THIS BASIC LAW NOT OBSERVED

But in spite of these limitations self-activity is the greatest law ever discovered in pedagogy. In fact, it is

the basic law of pedagogy, and other laws not founded upon it are valueless. The teacher fails in her work as she fails to arouse the pupil's self-activity. She may pour into his head information of various sorts, but unless this information reacts on the pupil and brings about his self-activity, it misses the mark. Information is to the teacher what medicine is to the physician: its purpose is to bring about a healthful reaction of the bodily organs. If it fails to do this, the physician is foolish to go on giving it day after day, and the teacher is equally foolish to go on day after day giving the child information when that information is failing to bring about a proper reaction in his life. Knowledge that does not result in self-activity is as worthless as medicine that does not result in a proper reaction of the bodily organs.

If this is true, it is evident that the results obtained by the average teacher are very meager. The average teacher is content to go on day after day, merely cramming into the child's head certain bits of information, and she never stops to find out whether or not such information is bringing about the proper reaction—which goes to show that we have not passed the first stage in the educational process. We have been satisfied with the pupil's being a passive recipient and have not sought to make him an active inquirer. Teachers to-day, the country over, are engaged in filling their pupils' heads with the customary quantum of information. In fact, teachers and parents have leagued themselves together for this purpose. The teacher's efficiency is measured by her ability to cram into her pupils' heads this information. Like Dombey, most parents are anxious for their children to be well informed, and they are not satisfied with the teacher's work unless she succeeds in filling their children's heads with the customary amount of information.

They want their children's minds, like their bodies, "dressed in the prevailing fashion." They want them adorned in ornaments of Greek, Latin, the history of Chaldea, and mathematical lore, not because they will ever need these things, but because it is the educational fashion. The mistress of the South Sea Islands would feel forever disgraced to appear in company without the accustomed beads around her neck, earrings in her ears, and nose ring in her nose. We all want to dress according to the prevailing fashion, and this is as true mentally as it is physically. We feel disgraced to appear in company with our compeers and not to know the things they expect us to know. This is why our school curriculum is filled with many things that do not satisfy in us any real need. It would, indeed, be interesting to make an unprejudiced survey of our school program in order to find out exactly how many things we require our pupils to study just because it is customary for educated men and women to know them.

Such emphasis in our schools on the accumulation of information has made them mere cramming machines. They are little more than intellectual hothouses, where, like Dr. Blimber, we produce all kinds of intellectual shrubs in all kinds of seasons. We produce "mental green peas at Christmas time, and intellectual asparagus all the year round." "Mathematical gooseberries (and very sour ones, too) are produced at all untimely seasons, and all kinds of Greek and Latin vegetables are gathered from the driest twigs of boys under the frostiest circumstances." We laugh at Dr. Blimber, but the average teacher is doing things just about as he did them, and the average school is little more than an intellectual hothouse where boys and girls are made to bloom at all untimely seasons. Dr.

Blimber took charge of only ten boys at a time; but he had always on hand enough information for a hundred, and, as Dickens says, it was his delight to stuff the unhappy ten with it. No wonder that under similar circumstances our pupils either take no interest in their school work and like Blitherstone escape the evil effects of its methods, or like Tozer become "learned but not educated," or like Briggs, who had his knowledge packed so tight in his mind that he could not get at anything he wanted. No wonder that children take no interest in their school work, when no attention is paid to their needs, when the whole time of school is given up to cramming into their heads the dry facts of textbooks. We require them to study the history that educated people are supposed to know and give no time to satisfying their history needs; we require them to go through the arithmetic, the algebra, the geometry, not because they will need these things in practical life, but to satisfy the prevailing fashion. The educated man is supposed to have read Latin; therefore boys and girls must try to read it or at least "go through with it," whether they get any good out of it or not. Indeed, this acquisition of the required amount of knowledge, or, rather, the going over the required field, has become in our schools so mechanical that about all that is expected of the graduate is that he shall have gone over the required ground, and few questions are asked as to his proficiency. He must have read Caesar, but is not expected to know much about him; he must have studied algebra, but in most cases he studied it so long ago that he has forgotten how to solve a simple equation. There are certain things in English literature that one must have read to be educated, but few questions are asked as to the extent of such knowledge. In most cases the things studied in

school are not mastered; they are not made a part of the pupil's life and they mean nothing to him when he goes out into the world. It is said that a professor of English in one of the northern universities went abroad with his two daughters, who had just graduated from high school. They were traveling over the country made famous by Scott's *Lady of the Lake*. The father was greatly touched by the many happy memories that were brought to him by different places visited and he could not understand why the girls seemed not to be moved at all. He said to them, "Girls, how is it that you can pass over these historic places hallowed by the many references to them in Scott's *Lady of the Lake?* They call to my mind the most sacred memories and stir my soul to its very depth. How can you remain unmoved?" To this the girls replied that "they had had all of Scott they wanted in the high school and they were sick and tired of him." It seems, in the great majority of cases, that when our pupils have run the accustomed number of times around our educational race course, they are ready to quit; they breathe a sigh of relief that it is all over. They lay aside their books, and 98 per cent of them never refer to them again. Then, in the face of all this, is it an untimely question to ask if our intellectual medicine is bringing about the proper reaction? All fair-minded people must admit that the cramming process is a failure, that the intellectual hothouse methods are not adapted to the growing lives of boys and girls.

STAGES IN EDUCATIONAL PROGRESS

In the hothouse method the efficiency of the pupil is measured by his *passive receptivity*, and the efficiency of the teacher is measured by her ability to cram into his head the customary information. The good pupil sits

with his mouth, eyes, and ears open to take in what the teacher gives him; the bad pupil is the one who is pre-presumptuous enough to question the efficacy of such methods and manifests a certain degree of independence. Under such conditions it is an unpardonable offense for the pupil to think for himself. He must accept without question what the teacher and the textbook say. That the educational world has not long ago seen the absurdity of such methods goes to show how it has been dominated by tradition, and before our schools are made really educational institutions we must have the courage to free them from the domination of the past and adapt our education to the needs of the pupil.

In the first stage of educational progress the pupil is a passive recipient of information. In the next stage he *passively organizes* this information. He is not yet an independent thinker, however; he merely reflects on the thoughts of others. These thoughts pass through his mind and he passively reviews them. He accepts what the book and the teacher say without question. In this stage the pupil thinks over his history lesson, his geography lesson, or his civics; but he does this to fix the thoughts of the textbook more firmly in his mind. He never thinks of using that thought and of making it productive of other and deeper thoughts.

Then we come to the next step in educational progress, in which the pupil is *passively active*. In this stage the stimulus comes from without as in the other two stages mentioned before. While the pupil is active, he is active at the command of the teacher and is mechanically active; his life is not in what he is doing. He writes his compositions because the teacher requires him to do so; he makes the table in the manual training shop, not because there is something in him that will give no rest until he makes

the table, but because the course of study requires him to do a certain amount of work to receive a credit. He is active in what he does; but he is only partly active. He does not lend himself entirely to his work.

The next step in educational progress comes when the pupil becomes an *active inquirer*. This step is important in the accumulation of knowledge; in fact, there can be no real accumulation of knowledge without it. When the pupil becomes an active inquirer, he takes the lead in his work. He enters into it with the same enthusiasm with which a child enters his play. His whole being is active and responsive and is in the proper attitude to make the knowledge which he receives a part of him. When the pupil becomes an active inquirer, he becomes selective. He does not take everything that comes his way, but he selects only that which satisfies his needs. He may passively receive what is not adapted to his needs, but he will not become active under such conditions.

For the pupil to become an active inquirer, it is necessary that he be in good physical condition; that the conditions under which he works be wholesome—the proper temperature and ventilation in the room, the desks properly adjusted, and the tone of the room positively exhilarating—and that his work be adapted to his present needs and in line with his instincts. Under such conditions the child is in a position to enter into his work actively. He is in a position to take the lead, and his teacher should let him do so. In his number work he should be permitted to make his own investigations. He should become a problem-finder as well as a problem-solver. At present he is a problem-solver almost altogether. The teacher assigns to him a list of problems, and his business is to solve them. Under such conditions it is no wonder that he takes so little

interest in his work; no wonder that he solves the problems mechanically and gets but little from them. But if he were permitted to make his own problems, or if they were selected from practical experiences, he would enter into his work with a full enthusiasm. About all that is needed to arouse the child's self-activity in his number work is to adapt the work to his needs, and this is not as difficult a task as it at first seems. The number needs of all the pupils in a given class are about the same, and we should have no difficulty in finding out what they are. We cannot, however, select a text in arithmetic made for New England children and use it in classes composed of Texas children.

In reading, the pupils should be given a wide range in the selection of their reading material. They should not be required to take up a reader and read the lessons in the order in which they come. Certain selections may be read with more profit at certain seasons of the year. The teacher should always endeavor to have the class read a selection when the occasion is best suited to impress it on their minds. Selections about great men, for instance, should be read on or about their birthdays. Then it will kill the interest of a class in reading to require every pupil to read every selection. The aim in the reading class is to teach the pupil to read silently and aloud, and to create in him an interest in good reading. If the teacher can do this better by permitting him to read some selection of his own choice than by requiring him to read the selection in his book, we can see no good reason why it should not be done. The aim is to get the pupil interested in reading and to get him to read as much as possible; it matters little what he reads just so it is good, wholesome literature.

The same principle applies in all studies. It is not

necessary that all pupils read the same history, for instance. Let them read that which appeals to them, for, by so doing, the teacher will best create in them a love for historical knowledge and stimulate them to read widely in history. If we would acquaint the pupil with the essential facts of history, the poorest way in the world to do so is to tie him down to the cold formality of a textbook.

The next stage in the educational progress comes when the pupil becomes *actively reflective*. In this stage he does not use what he learns in the textbook as an end in itself; he uses it as a basis for further inquiry. He does not accept without question what the textbook or the teacher says. He has his own ideas in literature, history, geography, and in mathematics. He takes the facts of literature, history, etc., combines them with his own experiences, and causes them to be real knowledge.

In our schools there is entirely too little time devoted to the second step in the educational process. Knowledge is acquired and soon passes out of the mind because it is not organized. The lessons, as a rule, are so long that the pupil has all he can do to make a cursory review of their contents; he has no time to reflect on what he reads and to organize it into a complete whole. We are moving at such a terrific rate in every phase of life that we have no time for calm reflection. The masses accept blindly what the few set before them, or, if they do not accept it blindly, it is, as a rule, a blind rejection. They do not know why they accept or reject certain things. Our social progress is the result of the thinking of a few men. The average person pushes the button and expects the thing to happen, and he is little concerned as to why it happens. The automobile, the telegraph, the telephone, and the thousands of other inventions that make

life easy and pleasant for us are accepted as a matter of course. The average man follows the leadership of his party without question. He accepts the foods others prepare for him without question; in fact, the life of the average man is a questionless life, and more than likely this is because he has formed early in life the habit of blindly following others.

The highest stage of educational progress is reached when the pupil becomes *self-active in the application of knowledge*. Self-activity is necessary to the accumulation, and it is also necessary to its organization; but the highest stage is reached in educational progress only when the pupil becomes self-active in the application of knowledge. Here the pupil's individuality is brought into his work and all his faculties are symmetrically developed. The last stage brings about in the pupil the proper coördination between power and attainment and makes him a "doer of the word and not a hearer only." Most people do not live up to their ideals because the power of applying what they learn has not been developed. This failure to do as well as we know has a weakening influence upon us, and most of us are not living up to our possibilities because we have failed to apply our lessons as we learn them. Our good impulses grow weaker and weaker if we fail to act on them, and our knowledge will mean less and less to us if we fail to put it into execution. Ideals will pass away unless there is an effort to live up to them. It is fatal for us to lose sight of the unity between knowing and doing; for, if the relationship is maintained, our ability to do grows less and less. This is, perhaps, one explanation of the weaknesses of poets and musicians, whose thoughts habitually pass away without being executed.

NO EDUCATION WITHOUT SELF-ACTIVITY

Without self-activity in school work the proper coördination of cerebral functions cannot be maintained. If the pupil does not enter into his work with his whole soul, some of his faculties will be used to the exclusion of others, and there will not be symmetrical growth of his whole being. This, perhaps, explains the difference between the city and the country boy. The country boy, having no one to direct him, takes the initiative in his work and thus develops himself all around; while the city boy has no such opportunities, hence his development is one-sided. His receptive faculties are used and his executive faculties are neglected. This is why the city boy stands no chance when he comes into competition with the boy from the country, and it is not a mere happen-so that the great majority of our great men come from the country. The country boy finds his own problems, he studies those things that are vital to him, those things that are suited to his stage of development, he brings into action all his faculties; the result is a complete development of all his powers.

Self-activity is indispensable in every stage of educational progress. The child will not enter fully into his work unless he is self-active, and work that is perfunctorily done will not result in habit. The weakness of the school to-day is that it does not enlist all the child's powers; it does not bring all of them into his work, and the great task of the teacher is to arouse self-activity. She must make the inspiration for his work come from within. The pupil must become interested in his work for the work's sake, just as he is interested in his play. Grades, reports, a desire to please parents, teachers, and others, or to prepare for college, may enlist a part of the pupil's faculties and lead him to learn his lessons in a

perfunctory manner, but these things will not bring all of him into his work. These things will not cause him to feel that "hot fever of unrest" which will give him no peace unless he is at work on his chosen task.

It will doubtless never be possible to make the pupil self-active in all his school work. There are certain preliminaries that will remain drudgery to him and not enlist his powers, because his vision of the beauty of the fields beyond are not enough to lure him on. Maybe we shall never be able to make him self-active in learning the mechanics of reading, the multiplication table, the table of weights and measures, spelling, the correct forms of composition, etc. But, even if this be true, let us not deceive ourselves into thinking that the child is being educated when he mechanically masters these things. He must learn them with self-activity, if he can be induced to do so; if not, then mechanically, for there can be no self-activity beyond unless they are mastered. If learned mechanically, these things are not a part of the child's education; they are but a foundation upon which his education is to be erected. If the child's self-activity is not aroused, he will never be educated. He may mechanically learn many things, but these things will not be a part of him, and he will ever remain a mere machine.

Topics for Report and Investigation

1. The relation of self-activity to a varied program of studies.
2. Dickens' conception of education.
3. The junior high school as a means of motivating school work.
4. Educational methods of the kindergarten which may be carried over to the primary and elementary school.
5. "Ciceronianism" in the schools of to-day.

Further Readings

Fisher, Dorothy C. *A Montessori Mother.* Henry Holt & Co.
Hughes, James L. *Dickens as an Educator.* D. Appleton & Co.
———. *Froebel's Educational Laws*, pp. 84–120. D. Appleton & Co.
Montessori, Maria. *The Montessori Method.* F. A. Stokes Co.
Pearson, Francis B. *The Vitalized School.* Macmillan.

CHAPTER IV

PLAY AS A FACTOR IN THE EDUCATION OF CHILDREN

IT HAS been said by those who are in a position to know, that the child learns more during his first six years than during all the rest of his life. If this be true—and we have every reason to believe that it is not far from the truth—there must be some condition during these early years especially conducive to educational growth. Those who have made a study of conditions believe that the growth of the child during this period is due to his being brought into direct contact with things in his play. This same growth does not continue after the child starts to school, because he is taken away from things and made to study books. The reason why the little child is so interested in his school work for the first few years of his school life is because the study of books is novel to him and brings into use his play ideas. However, by the end of the third year, he has become so dominated by the book idea and the dull routine of the school that he loses interest in his work, which from that time on becomes mere drudgery to him.

During these early years the child not only gains an accurate knowledge of his environment, but he gains control of his body and mind and acquires accuracy and precision in his movements. He learns to judge distances of sights and sounds, and lays the foundation for all future intellectual and moral growth. The child's development during these years gives us some conception of the importance of play in his education.

ORIGIN OF PLAY

But why does the child like to play and why is play so important in his education? Why will not the study of books, or what we call regular school work, bring about the same development? Why does the boy delight in striking a ball with a bat and then in running with all his might around a baseball diamond? What does he gain by it and why will he endure hardship and privations in order that he may do it more perfectly? You hear grown people say that if boys and girls would take the same interest in their work that they do in their play, it would be much better for them. This is because grown people do not understand. They have passed the play age and they cannot understand what play means to the child.

There have been several attempts to explain the play instincts of children. The first of these is the *surplus-energy theory* advanced by Herbert Spencer. He held that the nerve cells accumulate energy until they overflow and that this overflow energy results in play. This theory does not, however, explain why the child plays just what he does. Why does n't he expend his energy in work rather than in play? Why does he want to fight, hunt, fish, chase, play in the sand, make things, etc.? There is no denying that the child sometimes has a surplus of energy and that he expends at least a part of it in his play; but what about the child who plays to exhaustion long after all surplus energy is gone? As Joseph Lee says, "boys play on account of surplus energy in the same way that Raphael painted the Sistine Madonna because of surplus paint."

Dr. Groos, a German scholar, held that *play is an instinct that serves* the purpose of education. The child does not play because he is young, but he is young in

order that he may play, and in this play he prepares himself for life's activities. This is the theory of play that is held by almost all students of the subject. It was supplemented, however, by Dr. Hall of Clark University, one of the greatest authorities on the subject in America, who held that *play is a remnant of the early activities of the race.* The instincts of the child are a result of what the race did for thousands and thousands of years.

While history gives us an account of the race for only about five thousand years, scholars believe that man has been living on the earth for more than one million years. To accept this theory does no violence to the biblical account of the creation, and it is the only means of explaining the physical, mental, and moral constitution of the race. Geologists have demonstrated beyond any doubt that man has lived upon the earth for many thousands of years. We have an account of him for a little more than five thousand years; when we first get a glimpse of him he is just emerging from barbarism, and we know that he lived for many thousand years in a state of savagery. If it be true that man has been on the earth for a million years, for about 995,000 years he lived in a state of savagery in trees, caves, mountains, protecting himself from his enemies and wild animals by running, chasing, throwing, digging caves, making huts, bows and arrows, stone hammers, bone knives, etc. It was during this period that his reflexes were fixed and he became the creature that he is.

Dr. Holmes says that "man is an omnibus in which all his ancestors ride." We to-day are what we are because our ancestors did what they did in the past. If the conditions of their lives had been different, we to-day should be different from what we are. If they had lived

under different conditions, we should be different physically, mentally, and morally. The boy loves to use a baseball bat because his ancestors, for ages, used clubs in fighting their enemies and wild animals; he likes to jump because his ancestors for ages, in fleeing from wild animals, had to jump over fallen trees, small streams, and other things that were in their way; he likes to fight because his ancestors had to fight for protection against wild beasts. The things that children like to do are the things that their ancestors did for ages until their whole being became adapted to doing those things. Joseph Lee says: "It is as natural for the child to hunt, fish, jump, chase, throw, as it is for the lamb to frolic on the hillside." It is by such activities that man has been made what he is, and it is only by such activities that he can be kept what he is and grow to greater perfection as the creature that he is. There have been many attempts to define play and to differentiate it from work, but all these attempts have been unsuccessful. Play is a remnant of the activities of our ancestors. We call them play, not because they are easy and require no effort, but because we delight in them, and we delight in them because they are in harmony with our nature. It is because play activities are no longer necessary to the protection of life and the acquisition of a livelihood that grown people do not see the seriousness of them. But, in reality, play is even more serious to the child than work is to the man. In it he is building himself up physically, mentally, and morally. It was in what we call play activities that man was made what he is, and it is only by such activities that he will continue to be what he is. When your trusty typewriter gets out of repair and you want to have it adjusted, the place for you to send it is to the factory where it was made.

The makers know best how to adjust its parts and to give it the best possible action. So when we want to adjust the growing child to the conditions around him, the best place to send him is to the factory where he was made, and that factory is his play. This is the important point for us to get here: the serious work of the ancestor has become the play of the child; through that work the ancestor became what he was physically, mentally, and morally.

Indeed, play has so long been misunderstood that the word "play" does not convey to the adult mind the proper conception of the activities of the child. The adult does not regard the child's play as anything serious. In fact, when we want to say that a thing lacks importance, we say that it is "child's play." But we must revise our conceptions along this line. The activities of the child are important; they are serious, and no one can closely observe children in their play without being impressed with this fact. The child is more in earnest in his play than many men are in their regular work. See the boy in the ball game; he is in the center field; a ball is knocked over the second baseman to him. Does he display any lack of seriousness when he gets the ball and in a moment must make up his mind where to put it? Did you ever see men more in earnest than a ball team of small boys lined up against a team of about the same strength? Did you ever see more earnestness than is displayed by the little six-year-old girl playing with her dolls, or the boy of five playing in a sand bed? Seriousness is one of the chief characteristics of the play of children. They enter into it heartily, and this is why it has for them such great educational value.

MANY MODERN ACTIVITIES DRUDGERY

As a result of our civilization, man is engaged in many kinds of work not in harmony with his instincts. He no longer engages in personal combat with his fellows except on rare occasions; the day of the hunt is about over, and there is little opportunity given him in modern life for running, jumping, chasing, etc. Instead of being a maker of things, he is a tender of a machine which does the work. It is not much of a satisfaction to his fighting instincts to have to lie in a trench and, perhaps, to be shot in the head when he is least expecting it and by somebody against whom he has no grievance. Much of man's work to-day is what we call drudgery—work that is not in harmony with his instincts. Such work tears down rather than builds up. It is like putting a machine to some use for which it was not intended; soon its parts are out of the proper adjustment and the machine is worn out. If the man who tends a machine or who lies in a trench waiting to be shot by some unknown enemy does not have some opportunity outside of his regular work to satisfy his instincts, he is going to deteriorate physically, mentally, and morally. This is why there is such a cry among workingmen for shorter hours. They can't stand the drudgery, the tearing down, without some building up. This is why the question of recreation, of spending the leisure time, is becoming an important one with the coming of shorter hours. If the leisure time is the building-up time, it is very important how it is spent.

Boys and girls in school are required to do much work that is not in harmony with their instincts. Such work is mere drudgery; it tears down the child physically, mentally, and morally, and if, like the workman, he is not given opportunity outside of his regular school work

to build himself up through his natural activities, he will after a while become a weakling. This is why so many of our best school men are coming to the conclusion that if the school had charge of the child all the time he would be a weakling in body, mind, and soul. The boy who does not play will not grow. You may cram into his head all the learning in the world so that he will be a walking encyclopedia, you may teach him all the morals in the universe, and still he will be an imbecile mentally and morally, if he does not play.

A survey of history will show us that those nations that have produced the greatest number of great men have been nations in which play was fostered. Greece produced more great men in the forty years during the age of Pericles than were ever produced in the same time by any nation, and Greece's educational system required every child to spend half of his time in play. The great men of England have been those who as boys took great interest in play. In America there are twice as many men from the ranks of the athletes in *Who's Who* as from the ranks of the Phi Beta Kappas. This is all strong argument in favor of at least making play a supplement to the regular work of the schools.

If our present educational system, which consists, for the most part, in storing in the child's head the dry facts of textbooks, is not getting the desired results, it would be well for us to investigate and see what is the matter. It might be well for us to see whether our educational ideals are not wrong. Is education the acquisition of information or is it development? Even those who believe in the old-time educational régime will agree that the end of education is the development of the child physically, mentally, and morally. They pride themselves on their opposition to the "content studies,"

but they fail to see that not only is education not the acquisition of knowledge, but that it is not acquired chiefly through a study of books. A man might know all the Greek and Latin, all the mathematics, be a walking encyclopedia, and yet be uneducated. In fact, a man's being such is almost positive proof that he is not educated, for he has spent so much time and energy in the acquisition of knowledge that he has no time to make it effective. The educated man is the efficient man, the man who has control of his physical, mental, and moral faculties, and the college graduate who, like Briggs, has his knowledge packed so tightly in his mind that he can't get at anything he wants is far from efficient. What we want in education is the man who can use all the knowledge he possesses, the man who is master of all his resources.

The school of the past made the child's school work drudgery because it confined him to the acquisition of information that he would need when he became a man. Childhood has been regarded as a useless period except as it stores up information useful to manhood. The child in school is required to solve the problems of the adult instead of the problems of childhood in which he is interested. When conditions are changing as rapidly as they are to-day, who knows but that these problems will no longer be the problems of the man when the child reaches manhood? Then these problems of the adult do not appeal to the child; he is not interested in them, and psychologists tell us that however long we are confined to tasks in which we are not interested they will not make an impression upon us. The child does not grow as a result of his school work unless he enters into it with his whole soul and is self-active in it. He is not going to be self-active in that which does not

appeal to him as satisfying a present need; hence we can do him but little good in an educational way when we confine him to the problems of adult life. We must let him study and do those things that satisfy his needs now, for by so doing we prepare him in the best possible way for the problems of adult life. We must get away from the conception of education as the acquisition of information. Information is only a by-product of education. The mind is not a cistern; it is a workshop in which things are made. It is not a storehouse; it is a factory. The best way for the mind to store up a fund of useful information is for us to make it a workshop. Information is not really acquired until the mind is aroused and becomes alert and active.

PLAY BUILDS UP

As we have said before, play develops every phase of the child's being and makes him the creature nature intended him to be. It is like the proper soil for the plant; it causes him to reach his ideal. Play causes the child to grow physically, mentally, and morally.

1. *Physically.* Play gives the child the proper physical basis for his life, develops his reflexes, gives physical control, and develops the bodily organs. Running, which is a part of almost all play, gives the best possible development to the heart and lungs. It sends good, rich blood to all parts of the body, builds up the torn-down tissues, and gives ability to resist disease. Play puts the child into the fresh air, and fresh air is the most perfect tonic for all the body. The way to get a good case of indigestion is to keep out of the fresh air, take no exercise, and worry over your work. The way to build up a good digestive apparatus is to go out into the fresh air, take plenty of exercise, and take your mind off your work.

Worry impairs the health more quickly than anything else we know, and the person who plays regularly in the fresh air will not worry.

Play develops and strengthens the nervous system. The American people are getting to be the most nervous people in the world. Some one has said that if this state of affairs keeps on we shall all be in the insane asylum within the next three hundred years. Americanitis is another word for nervousness and irritability. The nervousness is due to the strenuousness of our lives and the lack of recreation through play. We are tearing down all the time, and never give nature an opportunity to build up. We are not a playing people. We work too much and do not spend enough time in exercise in the fresh air. This nervousness may be charged up largely to our educational system, which confines the child to a life of drudgery in the study of things that do not interest him. Most parents and teachers seem willing to sacrifice everything if the child can be made to learn his lessons at school. They take their children away from their play, send them to school almost as soon as they can walk, and do all in their power to crush their lives out. They do not realize that there is something more important to the child's future than the acquisition of information.

Play not only develops the body, it renders it immune against disease. The person who plays in the open air will seldom be sick. Play is said to insure the greatest immunity against tuberculosis, pneumonia, grippe, and colds; it gives vitality to the body and helps it to throw off disease germs. Play gives endurance and strength to do the physical work that will be required in after-years. So many people have not the physical strength to do their work; they tire out easily. This is not true

of the man who plays. Being in harmony with his natural interests, the child enters into his play whole-heartedly and enthusiastically, and it gives him grace and symmetry. The Greeks were the best proportioned and the most perfect race physically the world has ever produced. This was because they placed so much emphasis on play in their educational system.

2. *Mentally.* Play also gives the mind the exercise it requires. It is the natural tonic for the mental organs just as it is for the physical. It develops the mind much more effectively than does the regular school work, because the child enters into it more enthusiastically. He enters into it with his whole soul and becomes self-active. Play is the only kind of exercise into which the child will enter whole-heartedly, and it is, for this reason, the only kind that will cause his symmetrical development. When the child engages in any kind of exercise in which he is not interested, only one set of brain centers is active: but when he is interested in his work, all the centers are aroused, the brain is unified, and its symmetrical development is brought about.

Many people have a high mental efficiency for a few hours, but they cannot stand the test in which endurance is required. They have not developed the power of long-sustained mental effort. In the child's study, his mind flits from thing to thing, but this is not true in his play. The boy in the baseball or football game has the best possible opportunity for developing the power of concentration.

Play also develops the judgment. In the school the pupil is taught to weigh arguments on both sides of a question and is cautioned to be conservative in rendering his judgment. This is all very well on some occasions; but in most cases decisions must be given "right off the

bat," as it were, when hesitation is fatal. When the boy in the center field gets a ball, he must decide in an instant whether to throw it to the first, second, or third base; he must decide in an instant which runner to put out. This requires quick judgment on his part, and, not as in his school work, much depends on his decision. The crowd cheers him if he makes a good play; it hisses if he makes a bad one. There is no place for "sissyism" in the baseball game. There is no teacher to say that Johnnie will do better next time. On the playground there is no next time; he must deliver the goods now. The boy soon learns this and he does his best to deliver them. Knowing that one must do what is expected of him is the greatest possible stimulus to the thinking faculties, and the boy who sleeps in his history recitation will be wide awake on the playground, when so much depends upon what he does. There he is mentally alert and every faculty is at its highest tension.

3. *Morally.* Play not only gives physical and mental development, it is the chief source of moral strength. We may teach the child to do right, but he does not learn through our teaching. He learns through his own doing. In his play he forms his moral concepts. There his apperceptive centers for after-life are formed. There he gets his ideals. The race is what it is morally because of its early activities, and the best way for it to reach its ideal morally is for it to continue those activities. Where the man was made is the best place in which to keep him in repair.

The lack of something to do is the cause of most of the immorality in the world. Play creates the habit of industry. Some one has said that the boy who does not play is father to the man without a job. The boy who plays most on the outside of school will, as a rule, do the best work in the school.

Play develops the spirit of sportsmanship, which urges the boy to do his best to win, but, if he cannot, to take his defeat magnanimously. It tells him to do his best even though the odds are against him, and if defeat comes, to do his best to win the next time.

Play develops a sense of justice, honesty, and obedience to law. It eliminates from the child's mind the idea that might makes right, and teaches him to play according to the rules of the game and treat even the smallest player with the same consideration that he gives the largest one. When the child gets the idea on the playground that he should play according to rules, he carries these same ideas into business and plays according to the rules there. The boy who learns to respect the laws of the playground learns at the same time to respect the laws of his state. It might be said that the boy will learn this lesson of obedience in his regular school work, but experience has proved to us that such is not the case. Lawlessness in this country is increasing at a very rapid rate, and many think that this is due to the increased lack of respect for the laws of the school. The school is an absolute monarchy where the teacher's word is law. The teacher is on one side; the pupils are on the other; and it is a question which side will win. The pupil, under such conditions, will naturally come to the conclusion that it is to his interest to violate the law whenever he can. The playground, however, is a democracy where the law is in harmony with the child's needs; he learns to obey it because he feels that it is his law; he wants to obey, he does obey, and thus he forms the habit of obedience.

There are many moral qualities which the playground develops. In fact, a properly conducted playground will develop every phase of the child's moral life. Play

satisfies the deepest longings of the child's moral life and is in harmony with his moral no less than it is with his physical and mental nature.

EDUCATIONAL CONSERVATISM

Then, if play is so important in the education of children, should it not have a more prominent place in our educational system than it has at present? When it means so much to the child physically, mentally, and morally, should it not have at least as much of the child's time as is devoted to one of his studies? Many of our leading educators are beginning to think so, and in the more progressive schools of the country provision is made for the child's play just as for his regular school studies. In fact, some schools have gone much farther than this, and play is given as large a place in the school program as all the other activities combined.

In the Gary schools, the child devotes half his time to play, and Superintendent Wirt says that the pupils gain rather than lose by it. The graduates of the Gary schools are, as a rule, given advanced standing when they go to higher institutions. In an investigation of twenty thousand school children in New York City it was found that those who had been on half time had made considerably better progress than those who had been on full time. Joseph Lee says that our present educational methods teach the child how to do one hour's work in five hours' time. Dr. Hutchinson says that "a child can read over in thirty hours all that the school requires him to master in three thousand hours. It keeps him one hundred hours on work that he could do in one hour." Dr. Eliot says that a normal eighth-grader could master in six weeks all the number work he has mastered in his previous years in school. Colonel Parker

said that if you would give him a normal child fourteen years old who had never been to school, he would put him through the high school in four years. We all know that the boy from the country who has been to school but very little can enter the high school and outstrip the city boy who has been in school all his life. He may not know as much as the city boy, but he is more alert mentally. Most of our great men attended school only three or four months in the year. All this seems to prove that our children are getting too much schooling of the kind we are giving them. Does it not prove that much that we are worrying over teaching the child he would learn at the proper time? The trouble is that we are trying to get him to learn these things when he is not ready for them. Like Dr. Blimber's hothouse, our schools are trying to force the boys and girls to bloom out of season. If we would let the child grow physically, mentally, and morally, in his natural way, he would acquire the necessary information at the proper season without effort. In our school work we have sinned greatly against the child by trying to force him. The teachers say, "Bring him on"; the parents say, "Bring him on," and, as a result, he has been brought on in great fashion. The hothouse method may cram into the child's head the customary quantum of information and make father and mother proud of his learning; but such a method will not develop the physical strength that is necessary to the fullest life; it will not develop mental alertness, and it is destructive of the child's finer sensibilities. The plant that is pushed and made to bloom out of season pays the price later on in retarded growth, and the child that is robbed of his childhood and the play life that goes with it will likewise pay the price in arrested development. If the Dr. Blimbers who manage the

hothouses had to pay the price for such a crime against childhood, no one would seriously object; but the child must pay the price himself in a stunted life physically, mentally, and morally, and the Dr. Blimbers pass before the world as great educators. The greatest crime of the age is the one the schools are committing against the lives of little children in tying them down to the cold formality of textbooks and robbing them of the opportunities of growth that nature has provided for them through play.

We are not advocating the elimination of the school studies. They have their place in the education of children. But we do not believe that the child should be required in his school work to solve the problems of the adult and to neglect the problems that appeal to him. His school studies should be adapted to his needs as a child so that he will bring his play spirit into them and enter into them with that enthusiasm necessary to mastering them. Play should be given a prominent place in the school program, and the opportunities it offers should be used to their limit to bring about the child's complete and harmonious development.

Topics for Report and Investigation

1. Play in the education of the Greeks and Romans.
2. Play in the education of the French, English, and Germans.
3. The playground movement in America.
4. Physical training in its relation to playground and recreation activities.
5. Play in its relation to physical, mental, and moral training.

Further Readings

Curtis, Henry S. *Education hrough Play.* Macmillan.
———. *The Practical Conduct of Play.* Macmillan.
Hughes, James L. *Froebel's Educational Laws.* D. Appleton & Co.

Hall, G. Stanley. *Youth: Its Education, Regimen, and Hygiene*, pp. 73–119. D. Appleton & Co.
Lee, Joseph. *Play in Education.* Macmillan.
Strayer and Norsworthy. *How to Teach*, pp. 138–149. Macmillan.
Tanner, Amy Eliza. *The Child.* Rand McNally & Co.

CHAPTER V

FROEBEL'S CONCEPTION OF UNITY

ACCORDING to Froebel, all things have been created in one "universal, interdependent, interinfluencing, ever-progressive harmony." "In all things there lives and reigns an eternal law." There is not one law for the inorganic kingdom, another for the organic, and still another for the spiritual; but one law pervades the whole. This thought is beautifully developed in Drummond's *Natural Law in the Spiritual World*, in which he shows that one law pervades the whole creation. If our minds could grasp the creation in its entirety, we should find that there is no conflict either in the various elements of the creation or in physical, social, or spiritual phenomena. When we look at one part of the creation, we sometimes think that we find it out of harmony with the other parts; but such a seeming lack of harmony would disappear if our minds were large enough to grasp the whole. There is in it all a living unity, a complete harmony, because it all sprang from one Being.

We cannot grasp this conception of the creation unless we are willing to regard all things as having originated from one divine mind and to believe that that mind planned all things to work in harmony. Wenac not grasp this beautiful conception of an all-pervading harmony of things if we believe that one mind planned all things and then left them to their own course. Such a creation would not be the product of one mind, but of a multitude of minds. In such a case there would be no harmony among the various phenomena. Element

would be battling against element; every man would be arrayed against his neighbor, and the good of the whole world would not at all coincide with the good of the several parts.

The unity between individualism and socialism is a good example of the harmony that exists between seemingly contradictory terms. On first thought, it would seem that the two conceptions are diametrically opposed to each other; but a closer investigation of individual and social welfare makes it evident that there is no such conflict and that both are governed by the same law. What is really best for the individual is also best for society. The individual cannot, in the long run, bring the best to himself by his own personal aggrandizement; but "he is greatest who is the servant of all." "He that would save his life must lose it." Eventually, by seeking to forget self and to give self in a service of love to others, one brings the greatest good to himself. When Jesus said, "Thou shalt love thy neighbor as thyself," he set forth one of the fundamental laws of human development. The man who is self-centered will not grow. Selfishness will not only impede growth; it will dry up the very fountains of life. One of the most pathetic sights in the world is the man who disregards the welfare of his fellows and seeks to take all things to himself. The highest individual good is also the highest social good. On the other hand, he who does most for himself in the highest and noblest sense of that term does most for his fellows.

The same unity is found in all things—in heat and cold; in pain and pleasure, and even in good and evil. What we now regard as evil is the highest good to the mind which grasps the relationship of all things. There are not two conflicting minds in the universe; one mind is sovereign.

Not only is this harmony universal, but it is interdependent; all things are dependent on all other things. As between the organs of the human body, so there is a bond of sympathy between the parts of the whole: when one gets out of order, the other organs suffer. Not only this; all things are inter-influencing. Each part of the universe is influencing every other part. The organic world influences the inorganic, and the two influence the spiritual. The highest conception reached by Froebel was that this harmony is ever-progressive. It is not a static harmony, but it is one that is constantly tending toward perfection. Thus Froebel does not sympathize at all with the pessimist. He is the king of optimists. He would calm the fears of those who feel that the world is tending toward chaos. It is advancing from chaos to a complete unity with the mind that created all things in harmony.

"The business of the school," says Froebel, "is not so much to teach and communicate a multiplicity of things as to give prominence to the ever-living unity that is in all things." In other words, the essential business of the school is not to accumulate isolated facts, but to emphasize the relationship that exists between those facts and the harmony that exists in all things.

APPERCEPTIVE BASIS IN THE PUPIL

Not only is it the business of the school to emphasize the relationship that exists between things, but the teacher in her daily work must never lose sight of this harmony. There must be an inner connection between the pupil and what he studies; there must be an affinity between the two. There must be in the child's past experience something related to the thing he would learn. Thus we see the importance of the teacher's having a clear con-

ception of the doctrine of apperception and of her observing it in her daily work. The doctrine is one of those fundamental in modern education. It is not only important that the teacher clearly understand it and observe it in her daily work, but there must be a basis laid at home, before the child comes to school, for his future mental and moral development.

The lessons taken up by the child in school presuppose certain experiences before he entered school; if he has not had those experiences, he cannot grasp the lesson. Unless he has in his mind some facts in common with the lesson he is to learn, he cannot assimilate that lesson. It will mean nothing to him. In other words, his mental digestive organs must be able to digest the mental food that is taken in. Physiologists tell us that each kind of food requires a certain kind of an enzyme to digest it, and that if a food is taken into the digestive organs before the proper enzyme appears, it will remain in the stomach undigested and, after forming poisonous bacteria, will be absorbed into the system, causing all kinds of physical ailments. The results that follow the taking of mental food into the mental digestive organs before the proper enzyme appears is equally harmful and is the cause of most of the mental diseases. There are thousands of people in the world far below the proper standards in efficiency physically because they did not understand or failed to observe the laws of physical dietetics, and there are, also, many thousands of men and women far below the proper standards in mental and moral efficiency because they did not observe the law of mental and moral dietetics.

It is extremely important that the teacher observe the doctrine of apperception in her daily work. It is important that she find out what the child knows and what

his past experiences have been before she undertakes to instruct him. When she assigns a lesson, she should be sure that the apperceptive basis necessary to the learning of that lesson has been laid. She should for this reason never tell the child to take the next five pages, the next chapter, or the next topic, unless she knows that the proper enzyme for the digestion of that food has appeared in the child's mental digestive organs.

The doctrine of apperception holds as true for the moral as for the mental. It is a crime to cram into the child's mind religious creeds and dogmas that he cannot understand. Such a method is just as contrary to nature as it would be for the little child to take into his stomach a piece of meat he cannot digest, just because he might need later in life the food elements that meat contains. We hear people talk about the good that they have received from Scripture they memorized in their childhood, but there is always a doubt in our minds as to the good to be derived from such a course of training. We have always thought that such persons would have been much stronger morally if they had devoted their time to the cultivation of a basis for their moral growth. The child needs to be in an atmosphere of love and sympathy, to be associated with the good and true in real life, literature, and biography, and to have his poetic fancies and artistic instincts developed. The learning of moral precepts and religious dogmas is no substitute for this.

CHILDHOOD, YOUTH, AND MANHOOD

In the education of the child we must never lose sight of the fact that there is a very intimate connection between his childhood, youth, and manhood. In each stage we are to teach him and let him do what that stage calls for and cultivate his apperceptive centers so that he will

be ready for the next stage when he comes to it. One of the chief characteristics of the new education is the emphasis placed on the present worth of the child. The old education placed its chief emphasis on preparation for manhood. It regarded the child as important only because after a while he would be a man. Everything was preparatory to manhood; but the new education says that by doing most for the child as he is now we make the best possible preparation for manhood. In all cases we are to satisfy the child's present needs. We are to teach him to read because he has in his life a felt need of knowing how to read. We are to give him numbers only when he needs number relations in his everyday life. We are to give him language lessons only when he feels the need of a better means of expressing his ideas. We are to give him nothing merely because of a need that may arise in the future. We are to give him nothing merely because it is customary for educated people to know or do such things. All our efforts are to be devoted to satisfying present needs.

In each stage the apperceptive basis is to be prepared for the next stage. In his childhood we are to bring him in contact with flowers and plants and create in him a love for these things preparatory to his study of botany later. If he takes up the study of botany without having this love for flowers and plants first cultivated in his heart, he will get nothing from it but a lot of dry facts that will be meaningless to him. He will think he has something when he has not. In the same way zoölogy is to be preceded by a love for animal life. Little children are not to study nature from books; they are to come into contact with its living forms and learn thus to appreciate its beauties. Then they will be prepared to study it scientifically. There is no more valueless

study imaginable than botany or zoölogy without this apperceptive basis having been formed. There is no more valueless study than formal grammar before the child has learned to appreciate language. The cultivation in the heart of the child of an appreciation of language is the task of the first years of school life.

PHYSICAL, MENTAL, AND MORAL

The unity of the physical, mental, and moral is a very real one, and must be kept in mind by the teacher. The three are one; they are not independent of one another, as is often thought, but they react upon one another in a very vital manner.

This is especially true with reference to the physical and mental. The two are not only related, but, in a very real sense, they may be said to be one. The physical is the organ of the mental. The brain and the nerves are the instruments of the mind. Dr. Hall says that "the cortical centers for the voluntary muscles extend over most of the lateral psychic zones of the brain, and muscle culture is brain building." Thus, there is a more intimate relation between physical and mental growth than we have heretofore dreamed of. The physical and the mental react on each other more intimately than we have thought. Every movement of the muscles affects us mentally, and, vice versa, every mental act affects muscular movement. Angelo Mosso, the great Italian specialist, says that the relation of mentality to movement is very close. The most intelligent animals are those that have the freest use of their limbs. The hand of the intelligent person shows intelligence in its every movement, while the hands of the feeble-minded show equally a lack of intelligence. It is so true that movement is intimately related to mentality that the feeble-minded

are taught through the use of their hands. Their brain centers are strengthened through muscular activity.

The relation between the physical and moral is also very close. Dr. Hall says, again, that "the muscles are the vehicles of habituation, imitation, obedience, character, and even of manners and customs." We are what we are morally or in character because our muscles have formed the habit of responding in a certain way to nerve centers that have got into the habit of discharging in a certain way. The muscles are the organs of the will, and it is extremely important, for this reason, that we maintain the proper coördination between the sensory and the motor nerve centers. If we do not maintain this coördination, we weaken down both sensory and motor activity, and threaten the foundation of character. The man who is always taking in good ideas without acting upon them, always having good impulses without carrying them out, will soon cease to have either good ideas or good impulses.

Then there is another evidence of the relation between the physical and the moral in that the morally weak most frequently are also physically weak. The bad boy at school is, in the great majority of cases, physically defective. Ninety per cent of the boys in the Boys' Training School (the state reformatory for boys) in Oklahoma are physically defective. Investigation has shown that the great majority of the inmates of penitentiaries are defective physically; all of this goes to show that there is a very intimate relationship existing between the physical and the moral.

The mental and moral also stand in a very close relationship to each other. In fact, they cannot be separated. The man who is mentally well balanced is also morally developed. The first prerequisite of moral strength is

correct ideas. One must have correct ideas before he has the right attitude toward things. It is not necessary that a man be educated to be moral; but it is necessary that he have right ideas. Indeed, our moral standards are the result of social thought; whatever society thinks is right is morally right. It may not be in harmony with the eternal principles of truth, but it will be the moral standard accepted by society.

FEELING, KNOWING, AND WILLING

The unity of feeling, knowing, and willing is very important to the teacher. The emotional and the intellectual faculties are very vitally related to each other. Knowing results in feeling, and, not only this, the feelings are very important factors in the acquisition of knowledge. The schoolroom in which there is enthusiasm will accomplish a far greater amount of work than the room where enthusiasm is lacking. In fact, it is extremely doubtful whether there can be effective work in a schoolroom where there is no enthusiasm. Enthusiasm is necessary to interest, interest to attention, and certainly there can be no learning without attention. Enthusiasm is as necessary to effective work on the part of the teacher as fire is to the worker in metals, and there could be no more profitless undertaking than trying to teach a room full of little children without first arousing their enthusiasm for their work. The cold-hearted teacher may be able to cram some facts into the minds of her pupils, but she will not get them to assimilate these facts into mental and moral fiber. Enthusiasm is as necessary to the proper digestion of mental food as the enzyme is to the digestion of physical food.

Not only is feeling necessary to knowing, but knowing should result in feeling. The man who knows a thing,

and knows that he knows it, is a master. This cannot be said of the man who knows a thing without knowing that he knows it. This being aware of our accomplishments, the feeling that flows from it, is what makes us masters. It makes no difference how phlegmatic one is, he feels the spirit of conquest when he masters a difficult problem.

Then the feelings are necessary to the fullest development of character. Love, sympathy, reverence, and all those cardinal elements of Christian character have their taproot in the emotional life, and the man or woman lacking in the proper development of these emotions will also be found lacking in these virtues. The feelings are at the base of the will, and the person of an enthusiastic, emotional temperament is most likely to have his will power developed to the highest degree. He may make mistakes in judgment, but he will not be afraid to act. Hence we can see that a symmetrical character has all three faculties developed; one is necessary to the complete development and functioning of the other, and there is a complete unity among them.

RECEPTIVE, REFLECTIVE, AND EXECUTIVE FACULTIES

The most fundamental unity discussed by Froebel and the one that has had most influence on modern educational thought is that of the receptive, the reflective, and the executive faculties. It takes the three to complete the learning process. The cycle is not complete until the knowledge has been acquired, organized, and applied. In the old education we emphasized merely the acquisition of knowledge and never thought either of organizing or of applying it. We emphasized textbook work, and the whole aim was to get the pupil to master the textbook. We lost sight entirely of the unity in these three steps in the educational process.

The most serious defect in the educational system of the past was its lack of thoroughness. Students were rushed over a prescribed educational field in a certain time and were expected to get into their heads as best they could the information included in that field. All the emphasis was placed on the acquisition of knowledge, and the pupil had to go so fast to get over the field in the prescribed time that he had no time to organize his knowledge; hence it soon passed out of his mind. There is nothing more pathetic than the modern graduate who has been chased around our educational race course a certain number of times and made to feel that he is educated. He has studied English four years, history four years; he has read Caesar, Cicero, and Virgil, and has caught a glimpse of the mysteries of graphs, the binomial theory, and logarithms; but he has no thorough knowledge of English literature; he knows the names of some authors and, maybe, he remembers some of the things they wrote, but he is not able to talk about their writings in an intelligent manner and to show you that he has made these writings a part of himself. He has read ancient, medieval, and modern history, but he has only a hazy grasp of it. He can give a few facts here and there; but he does not understand the great cause-and-effect side of history. His knowledge of algebra and Latin lacks thoroughness. The trouble with his work is that it lacks organization. Knowledge acquired and not organized soon passes out of the mind.

Then knowledge may be organized and still not be real knowledge. It does not become a part of one until it is applied. Applied knowledge is the only real knowledge. It is the only knowledge that results in a complete coördination of all our faculties. Our schools have so long been emphasizing the accumulation of knowledge,

making no effort to apply it, that the proper coördination of the receptive and executive faculties has been largely lost. Most of us are like the lady who wept over the sufferings of the fictitious character in the play, while her coachman was freezing to death on her cab outside the theater. We should not permit ourselves to acquire information that we do not use. Knowledge was never intended to be stored, but to be used as it is accumulated. Like the manna collected by the ancient Israelites, it is to be collected as we need it, and the results of our going on, year after year, accumulating knowledge that was never used has been most demoralizing. Character is not in any sense of the term a result of the accumulation of knowledge. The accumulation of knowledge has nothing to do with growth. Growth is a result of the assimilation of that knowledge that comes with its application. The world is full of mental and moral dyspeptics—those who have taken into their mental and moral digestive organs more food than they can digest. Such a process is not productive, but destructive, of character. The man of character is the one who lives up to his limit every day, who uses all the knowledge he has in store.

There is a certain fascination about knowing things just for the sake of knowing them; it tickles our fancy to have our neighbors call us well read, well informed, educated, but we pay a dear price in character for such compliments. Ice cream, certain candies, and fancy foods are also pleasing to our tastes and often we enjoy eating them, but we pay a dear price for such pleasures. We should take into our bodies such foods as these bodies need, and at the time they need them. We should not take foods just because they are pleasing to our tastes, nor because we may need them after awhile. So we should

take into our mental and moral digestive organs just such food as these organs need, and as they need it. We should not try to store it away for future use. We should apply our knowledge as we acquire it and close up the gap between knowing and willing. We should complete the unity of the receptive, reflective, and executive faculties.

These are some of the unities stressed by Froebel. With him, the law of unity is the fundamental law of education. His whole system of educational philosophy is based on this law, and we cannot understand him unless we grasp his conception of unity.

Topics for Report and Investigation

1. The relation of the physical to mental and moral development.
2. The cultivation of the emotions as a factor in education.
3. Froebel's conception of individuality and self-expression.
4. The kindergarten as Froebel saw it.
5. What Froebel contributed to modern education.

Further Readings

Dewey, John. *Democracy and Education.* Macmillan.

———. *Moral Principles in Education.* Houghton Mifflin Co.

Froebel, Friedrich. *Education of Man.* D. Appleton & Co.

Hughes, James L. *Dickens as an Educator*, pp. 15–28. D. Appleton & Co.

———. *Froebel's Educational Laws*, pp. 222–247 and pp. 1–36. D. Appleton & Co.

Moore, Ernest C. *What Is Education?* Ginn & Co.

CHAPTER VI

THE CENTRAL NERVOUS SYSTEM AND WHAT IT MEANS IN EDUCATION

TWO young men were talking together. One was of a literary turn of mind and was very much interested in a book of fiction he had just completed, recounting some scenes among the early settlers in the Ozark Mountains in southern Missouri when the red man still occupied that country. The writer told his friend how he had gathered the material for the book and under what difficulties he had written it. He then told its story from beginning to end. When he had finished he asked his friend if he had ever written a book, and much to his surprise the friend replied, "Yes, I am writing one now. I have been laboring for about twenty-five years gathering the material and writing a book that is to me the most interesting book in all the world. But even now, with all the time I have put on it, it is far from what I would have it be. In spite of all I can do, much goes into it that I wish was not there; but, you know, it seems so hard to change a part of it after it has been written. The words, the sentences, the paragraphs, the chapters, want to remain just as I first wrote them. This is not true of the book you have told me about. You can rewrite and change any part of it whenever you desire, but when my book is written, it is written. The book that I am writing is the book of life."

This book of life is the book each one of us is engaged in writing from the day of his birth until the day of his death. It is not written for us by another. It does not just happen to be what it is, but we are from day to day

writing with our own hands what is therein contained, and what we write is written more indelibly than if it had been written on tablets of clay or stone. A few months ago, around the ruins of ancient Nineveh, there were found clay tablets that had been written more than six thousand years ago, and they were as legible as they were when they were first written. In the tombs of the ancient Egyptian kings there are frequently found inscriptions written more than five thousand years ago. It seems wonderful to us that the thoughts of a man could be preserved and made plain to his descendants who lived six thousand years after his death. But much more wonderful is the fact that in the nervous systems of these ancient monarchs is a record of their deeds more accurate and far more truthful than those written on clay or stone tablets. This is the book of life which now lies concealed from human eyes, a record written, as it were, in God's invisible ink, but the record will be revealed to all when God makes known his plan for making visible that which now is invisible.

As the master sings or plays into the receiving horn of the phonograph, a record is made of what he sings or plays. This record can be reproduced in about its original tones. This cylinder can be laid aside for a thousand years, perhaps, and then be made to give off as sweet a melody as on the day it was made. However, as I think of the wonders of the phonograph and its power to preserve the sounds of the human voice and of the most perfect musical instruments known to man, I realize that its wonders are not to be compared to the records that each one of us is making of the deeds of his life—a record that will be perfectly preserved, not in some mysterious book kept in some mysterious land, but in our own nervous systems; and I imagine that, on

the day when all secrets are revealed, the record we have been writing will be placed on God's wonderful phonograph, and every thought we have had and every deed we have done will be reproduced in perfect exactness.

It has been said that when one stirs a pail of water even with the finest feather its molecules are made to take a new arrangement, and not a single one occupies the space it did before. I raise my arm and lower it again to its original position. So far as I can see, everything is as it was before; but if my vision were more penetrating than it is, I could clearly see that this movement caused a rearrangement of certain molecules in my nerve cells and made it impossible for me to be what I was before. Every thought, every act, changes me, and after such a thought or act I can never be quite what I was before.

The nervous system is said to be composed of about three thousand million nerve cells or neurones which vary in length from a very small fraction of an inch to several inches. These nerve cells have the power of sending out messages, which tends to unite them into one interrelated mass. Now this nerve fiber is the most plastic substance that we know anything about, and it is extremely sensitive to even the most delicate nerve currents, and also to heat and cold, as those of us who have had the toothache can testify. We do not know how the nerve currents act upon it, whether the change is chemical or electrical, but we do know that it is modified by every thought-current that passes over it or through it. We know also that every thought-current that passes over these nerve cells leaves such an impression that, like phonographic records, it can be reproduced. We know that the more frequently thought passes over a channel, the deeper that channel becomes; and the more easily the thought is

reproduced, the more frequently an act is performed or an attitude taken, the more easily it is repeated. This is what we call the law of habit. When thought-force which results in an act or an attitude passes over a pathway of nerve cells once, it tends to pass that way ever afterward.

OUR THOUGHTS AND DEEDS MAKE US WHAT WE ARE

It is important that we know as early in life as we can that every thought we have and every movement of the body makes its pathway in our nervous system, and that such a thought or such an action becomes easier the more often it is repeated. In other words, all our actions and attitudes tend to become habitual, and our lives, for good or for evil, are but a mass of habits. We have often heard it said that habit is second nature. The Duke of Wellington once said that habit is ten times nature, and the late Professor James of Harvard said that "ninety-nine hundredths, or possibly nine hundred and ninety-nine thousandths of our activity is purely automatic or habitual, from our rising in the morning to our lying down each night. Our dressing, our undressing, our eating, our drinking, our greetings, our partings, are so fixed by repetitions as almost to be classed as reflex actions." Thus we make ourselves during the early part of our lives, for the most part before the age of seven years, and for the rest of our lives we are but "stereotyped creatures, imitators and copiers of our past selves."

As Professor James says, the important aim in education is to make our nervous system our ally instead of our enemy. We should begin early to make habitual those actions and attitudes that will cause us to live in harmony with our environment, and inhibit all actions that tend to destroy such harmony. Not only this;

our parents should begin for us, before we know the importance of it, to place around us such an environment as will produce in us such harmony. Whether our lives are happy or unhappy will depend upon the education of our nervous system. Our lives will be happy if we have made automatic such attitudes and habits as honesty, courtesy, kindness, politeness, cheerfulness, regard for others, sympathy, friendship, thoroughness, accuracy, promptness, optimism, etc., and they will be unhappy if we permit the opposite of these to take possession of us. The kind person has acquired the habit of kindness, and the unkind, crabbed person has built up the habit of unkindness. We often say that we can see honesty or dishonesty in a man's face, and this is true, for it is written there through his nervous system more indelibly than if it had been written with a pen or pencil. The honest or dishonest act builds up the nerve cells in a certain way; these nerve cells reflect their structure in the structure and tension of the muscles, which give the face its expression. If one wants to have a kind and lovable disposition, let that one have kind and lovely thoughts which result in kind and lovely deeds, for such thoughts crystallize themselves in muscle structure, and may be read and known of all men. This is what the Great Teacher meant by saying, "As a man thinketh in his heart, so is he." This means not only that a man's thoughts will give expression to his inner life, but that his thoughts make his life what it is.

IMPORTANCE OF EARLY EDUCATION

Thus we can see how important it is that parents begin early to develop in their children right habits. They should begin even while the child is in the cradle to throw around him such an atmosphere as will tend to

make habitual the virtues they want him to possess. We open the doors of the schools to the children at the age of seven, but it can be said, in a very true sense, that the child has been educated for weal or woe before that time. The nervous system retains a certain degree of elasticity until the age of thirty-three, but by the age of seven the child has formed the habits that will mean most to him in life. He has by that time built up the basis for a successful and happy life, or he has laid the foundations for failure and unhappiness. When parents realize this more than many of them do to-day, they will not be as eager as they are to shift the responsibility of their children's education to incompetent, or even to the most competent, nurses, or to the kindergarten or primary teacher.

We have often heard it said that "it is never too late to mend," and this is true in a sense; but it would be truer to say that it is always too late to mend entirely. The pathway that thought and action have made in our nervous system can never be entirely destroyed. The man who acquired in his early years the habit of dishonesty can never be quite trusted in his later life. His best judgment may tell him that honesty is the best policy and he may try to be honest, but at a moment when he least expects it the old habit will express itself. The nerve force will jump the track he has been trying to form and will go back to the more easily traveled track made in early life. We have taken honesty as an example, but the same is true of the other virtues. They must be built up in early life, if they are ever built up. Parents do not intend to cultivate in their children the habit of extravagance, for instance, but they humor them in everything they want when they are young, and the habit is built up before they know it. If the child acquires

the habit of thrift and economy, he must live in such an environment from his early days.

One of the most pathetic cases I ever knew illustrative of the fixity of nervous pathways after they have once been formed was that of a man who had worked hard in his early manhood and acquired by the time he was thirty-five enough property to retire. At that time he took a notion that he wanted an education, and he actually attended school a number of years with the hope of acquiring enough culture to admit him to good society. He had a bright mind and succeeded in mastering his studies fairly well; but his "had went," "could a saw," and other such blunders of speech were always a source of embarrassment to him and betrayed his early training. As soon as he had uttered such expressions, he knew they were incorrect; but habit was quicker than thought, and they came out before he could stop them. This case is merely illustrative of the impossibility of entirely overcoming habits formed in early life, and most of us have our struggles with a nervous system that was improperly shaped in our childhood. We acquired in school, perhaps, the habit of doing slovenly and inaccurate work, thinking only of "getting by" the teacher and making our grade, not realizing that every act of slovenliness or inaccuracy was writing itself deep in our nervous system ready to manifest itself in our business and in every relation of our lives.

The girl learns to be a snob in school. She snubs all the girls except a small coterie of those she calls her friends, not knowing that each time she repeats an act of snobbery she is cutting deeper in her nerve cells the pathway traveled by nerve force controlled by such centers and fixing the habit more firmly in her each day. Each little act does not amount to much she thinks, if

she thinks at all, but nevertheless the habit is slowly forming and will make her friendless and unhappy in after-years.

Let the student remember that what he wants to be he must try to be. He may be able to overcome a few bad habits if he has the strength of will, but the odds are one hundred to one against his having the strength of will, and the best plan is never to form them. As soon as his attention is called to the importance of forming correct habits, he should begin in earnest to form those habits that will be of value to him in life and avoid those that will be hostile to his best interests. If he would have his actions approved by his neighbors, he must begin early to make habitual those actions that meet their approval. He need not imagine that he can do as he pleases, regardless of the feelings of others, during the formative days of his life, and have his actions approved by his fellows later on. William James says:

> The hell to be endured hereafter, of which theology tells us, is no worse than the hell we make for ourselves in this world by habitually fashioning our characters in the wrong way. Could the young but realize how soon they will become mere walking bundles of habits, they would give more heed to their conduct while in the plastic state. We are spinning our fates, for good or evil, and never to be undone. Every small stroke of virtue or vice leaves its never-so-little scar. The drunken Rip Van Winkle, in Jefferson's play, excuses himself for every fresh dereliction by saying, "It won't count this time." Well, he may not count it, and a kind Heaven may not count it, but it is being counted just the same. Deep down in his nerve cells and fibres, the molecules are counting it, registering it, and storing it up to be used against him when the next temptation comes. *Nothing we ever do is, in strict scientific literalness, wiped out.*[1]

Those are strong words, and we are amazed at even the small amount of their meaning we are able to grasp.

[1] *Talks to Teachers*, pp. 77–78.

Our amazement increases when we know that they were written by a man who knew more about the development of our nervous system than, perhaps, any other man in his day; besides, practically every psychologist of any note to-day most heartily indorses what he said. They are all of the opinion that we are making ourselves what we are from day to day. Beginning with the day of our birth and ending on the day of our death, we are spinning our fates, writing the book of life that contains a perfect record of what we are. This is the meaning-full message that the study of the nervous system brings us, and it is a message that should be brought to every child as early in life as possible.

The development of the nervous system is, without doubt, the important problem in the education of children, and the question that should be foremost in the minds of parents and teachers is: How can such development be brought about?

In the first place, parents should begin early to help their children form correct habits. If they depend upon the school and wait until the school age, the battle will be largely lost. By the age of seven the child has formed the habits that will in great part determine his future career. These early years are the most important of the child's life. They are the time when he needs the most careful, painstaking, and sympathetic supervision, and there is to-day no danger threatening our civilization to be compared to that of the home's failure to make these years count for the most in the child's education. If the child's work in school is going to be made to count in preparing him for a life of happiness and success, a foundation for that work must be laid in the home before he starts to school. The home must take hold of its task and not seek to shift its responsibility to the kindergarten

and the school, for in the sacred precincts of the home, under the loving care of father, mother, brothers, and sisters, is the only place where the delicate nervous system of the little child can receive adequate training. In the home must be laid, if it is ever laid, the foundation for the habits of self-control, of obedience, of honesty, of industry, of kindness and patience, and all the other virtues necessary to a successful and happy life. Here the child's tastes must be formed; here the love of study, an appreciation of music, art, and good literature, must be created. It is fatal for parents to make the mistake of thinking that they can neglect the formation of these habits in the child's early life and make good the loss later on. It is fatal for them to think that they can shift the responsibility for the child's early education to the kindergarten or the school, for these institutions at best are but poor substitutes for the home. The purpose of the kindergarten in the mind of its founder was to offer a poor substitute for the home to those unfortunate children of the very rich and the very poor who did not have the advantage of a home. Let no mother think that she can shift to the kindergarten her responsibilities in the education of her children without paying the price in their improper development. The mother is heaven's appointed instructor for the child during his early years, and she knows instinctively more of his needs and how to satisfy those needs than does the most skilled kindergartner or primary teacher. The mother's most sacred duty is the education of her children, and she cannot afford to shift the task to less wise, patient, and sympathetic hands.

ENVIRONMENT IN EDUCATION

The most important factor in the education of the nervous system is environment. The child instinctively

responds to his environment. While we do not understand the action of nerve force on the nerve cells, we know that, in some way, it causes them to develop. We know that when nerve cells are not used, they remain undeveloped, and that when they are used, they grow. A postmortem examination of the brain of Laura Bridgman, who was blind from her early childhood, showed that those nerve cells that had control of vision were undeveloped and that the cortex of the brain was thinner at that point. The several functions of the brain may possess great potentialities, but if they are never used, they will never attain their best. It is a well-known fact that the great musicians have lived in a world of music, in most cases, from their childhood, and have developed the part of their nervous system that controlled their love and appreciation for music. We cannot make a musician of a child if we do not place him in an environment of music. If we would have the child acquire an appreciation for poetry, we must early introduce him to poetry suited to his age. If we would develop in him a kind disposition, we must let him live in an atmosphere of kindness, and all the teaching in the world will be valueless unless it is in such an environment. In fact, we cannot teach the child to be kind, to love music, art, and poetry, or to develop his tastes along other lines, unless we do so by means of an environment of such things. When the child hears good music, the nerve cells in the music part of his brain become active, the blood rushes to them, carrying nourishment, and thus the neural coördinations are developed. If we would have the child love flowers, we must put him into an environment of flowers, and bring into use the corresponding nerve cells. We might have him read about flowers until he is gray-headed, but he will never come to

appreciate them unless he is made to live in such an environment.

However, it must be remembered that after one has acquired an appreciation for music—for instance, has developed that sense and can recall former images of sound—the nerve cells will respond to the memory in about the same way as when in contact with the thing itself. When I remember the smell of a rose, I put to work and develop my olfactory nerve centers in about the same way I do when I actually smell the rose. The memories of taste, touch, and the other senses have the same effect, and we should make use of this fact in the child's education. However, if there is neither a recall of the memory of these things nor actual contact with them, the nerve cells that control them will waste away and cease to function. In his autobiography Darwin says that until he was thirty poetry of many kinds gave him great pleasure, and, as a school boy, he took intense delight in Shakespeare. He also enjoyed music; but at the time he was writing, he could not endure to read a line of poetry and he had long before lost his taste for pictures and music. He had devoted himself so exclusively to grinding out general laws from a multitude of facts that the nerve centers that controlled his love for music, poetry, and art dwindled away. He regretted that he had not kept up his love for these things by devoting a little time to them each day.

It is environment that affords the developing stimuli for the several faculties of the nervous system. We have already referred to the fact that the great musicians were reared in an atmosphere of music. This is true also of the great poets. They lived with nature and learned to love her. One cannot read Shakespeare without realizing that his faculties of taste, of touch, of smell,

of sight, and of sound were accurately developed, and those who have visited the home of his childhood at Stratford-on-Avon tell us that there is in all the world no more ideal place for the development of the senses. If Shakespeare had been born and reared in London, he could never have written his plays. Keats, Shelley, Wordsworth, Tennyson, and Browning were all students of nature. They loved and lived with nature. Their nervous systems were developed by their appreciation of nature, and they grew to appreciate it more and more.

EDUCATION SHOULD BE NATURAL

We cannot expect to develop the nervous systems of children by confining them to books within the musty walls of the average schoolroom. We cannot hope to have them learn to appreciate the beauties of nature and the good in men and women if we confine them to the back yard of the average city home, where they have no communion with the birds, the flowers, the grasses, the trees, and the growing fields. We must get it out of our heads that education is learning to read, to write, to spell, and to cipher, or the gaining of knowledge from books. We must quit rushing our children off to school just as soon as they are able to walk. What the schools teach to-day, for the most part, is required as a result of our civilization's being what it is and not because the needs of the growing child demand it. A very large part of the school's program is uneducative rather than educative, and those parents who send their children away from home and the beauties of nature—the real educators—to the kindergartens and the schools, are making a very serious mistake—a mistake for which these children in after-years will have to pay dearly in the lack of a proper development of their nervous systems.

BAD HABITS OVERCOME BY PERSISTENCY

Let the young man or woman remember that, while the years of plasticity are the early years of life and those habits that shape our character and give us our attitude toward the world are formed at that time, many, many habits are formed later in life, and that there is hope in the fact that the nervous system is never absolutely fixed, at least not until long after the age of maturity. We may have let into our lives in childhood and early youth many enemies that will keep us from being as happy and successful as we might have been; but the battle is not entirely lost, and our hopes may be greatly enlarged if we will but seriously set ourselves to the task, set up those ideals we would attain, and struggle after them day after day. It is true that the fight will be harder than if it had been fought earlier. The enemy has intrenched himself in our territory and will not be dislodged without a struggle, but a constant hammering at him will get results if the battle is kept up day after day. Such persistency will find itself one day recompensed with a reward that will far outweigh all the hardship borne and all the difficulties overcome, The virtues such as kindness, generosity, honesty, accuracy, thoroughness, judgment, friendliness, and the others are not acquired in a single day, but the youth who keeps up the fight will win in the end. Those virtues will gradually grow to be a part of him and he will be surprised one day at how well he has made them his own. This is the way men and women are made.

Then our nervous system is the raw material out of which our lives are made. What we are physically, mentally, morally, and as men and women in the business and social world, depends upon how well we write our story. We hold in our own hands our destiny. We are each

moment in every thought we have and in every act we perform spinning, for good or evil to ourselves, our web of fate. While we may in a way patch up our past lives and cover up the mistakes we have made, we can never remove the scar. What we have written in the book of life can never be erased, but will remain a message to bring us happiness or unhappiness as long as we live.

Topics for Report and Investigation

1. The central nervous system.
2. The place of environment in the education of children.
3. The education of Shakespeare.
4. The place of nature study, art, and music in education.
5. The educational system of the Greeks and what it had to do with their race ideals.

Further Readings

Bailey, H. T. *Art Education.* Houghton Mifflin Co.

Farnsworth, C. H. *Education through Music.* American Book Co.

Halleck, Reuben P. *Psychology and Psychic Culture*, pp. 9–42. American Book Co.

———. *Education of the Central Nervous System*, pp. 1–27, 171, 208. Macmillan.

James, William. *Talks to Teachers*, pp. 64–90. Henry Holt & Co.

Monroe, Paul. *A Brief Course in the History of Education*, pp. 28–79. Macmillan.

CHAPTER VII

VOCATIONAL EDUCATION

THERE are two phases of education that our schools must keep in view—an intensive and an extensive phase. The first is vocational; the other is cultural. It will not do to emphasize either phase unduly. However, what is cultural for one person may be vocational for another. History is vocational for the teacher of that subject; it is cultural for the merchant. Chemistry is vocational for the physician or the pharmacist; it is cultural for the lawyer or the minister. Manual training is vocational for the mechanic; it is cultural for the merchant or the banker, and so on with all the other studies; they are vocational for one, cultural for another. No education is complete unless these two phases are recognized and a happy balance is kept between them.

The trouble with our present educational system is that a proper balance has not been maintained. It is vocational for teaching, law, medicine, and the ministry, and almost purely cultural for all the other vocations. It takes but little cognizance of the great number of vocations that have sprung up during the past hundred years. Less than 5 per cent of our population are engaged in teaching, medicine, law, and the ministry. More than 95 per cent of them are engaged in trade and transportation, domestic and personal service, manufacturing and the mechanical pursuits, and agriculture. These vocations in their present form are the products of the past hundred years, and this is the reason why the educational

system that had its inception in the Middle Ages takes no cognizance of them.

It is important that we do not neglect the cultural side of education; but an educational system that is vocational for less than 5 per cent of the people and cultural for the rest does not maintain a proper balance between the two phases. What is cultural for 95 per cent of the people largely loses its real cultural value. For a subject to be cultural for one person, it must be vocational for his neighbor; for the cultural subject is that which gives one a better understanding of the work of his neighbor and creates a greater sympathy between the two.

AIMS IN EDUCATION

The problem confronting the schools to-day is: How is the new order of things to bring about the proper adjustment between the cultural and the vocational phases of education? The people who pay the taxes are demanding that our educational system be revised so as to take cognizance of the vocations that have come into existence in their present form during the past one hundred years. To meet the needs of present social conditions and to maintain the proper balance between the vocational and the cultural phase of education, our educational system must have the following aims: (1) vocational training, (2) training for homemaking, (3) training for citizenship, (4) training in the use of the mother tongue, (5) training for health conservation, (6) training in the right use of leisure time.

It is our purpose at this time to discuss just the first aim—vocational training. In fact, vocational training in its broadest sense would include all the other aims we have mentioned. To be trained vocationally, a man must

know something more than the mere technique of his vocation. He must be a good citizen; he must have skill in the use of his mother tongue; he must understand how to conserve not only his own health, but also the health of his community; and he must know how to spend his leisure time with profit. Vocational training in its fullest sense includes cultural training; it has an intensive and an extensive side. A man's vocation is his means of bringing his resources to bear on those around him, and a man without a vocation is as helpless to function in society as the engine without the belt to connect it with the machinery of the factory, or the dynamo without the wire to connect it with the motor. We may call the cultural training the dynamo; but the vocational training is the motor that turns the wheels of progress. No man is truly educated until he is educated vocationally—that is, until he has a means of bringing his resources to bear on people and conditions around him.

VOCATIONAL DIRECTION

Vocational training begins, of course, with vocational direction. Every teacher should be a vocational counselor. She should be in touch with the different lines of work and be able to help the pupil to adjust himself to his vocation. The day is fast passing when the teacher can learn a few things about grammar, geography, and arithmetic, and feel that she is ready to take up the education of children. In fact, in the new era that is now dawning upon us, knowledge of the book will be the smallest part of the teacher's equipment. The teacher of the future will have to know not only books; she will have to know her subject; she will have to know the child, and how to adapt the subject to the needs of

the child; she will have to know the practical side of life so as to be able to prepare the child for life. We realize that the teacher of to-day is not to blame for her lack of a knowledge of the child and practical affairs. Her lack of such knowledge is due to no fault of her own, but to the system in which she was educated. The teacher is not to be blamed for this system, for it has been handed down to her from past ages and it demands not only that teachers be trained in a certain way, but that they pass this training on to others in the same way. But is n't it a fair question to ask, How can the teacher prepare the child for life when that teacher knows neither the child nor life, when all her knowledge consists of the things she has learned from books?

When the teacher has informed herself as to child nature and has come into contact with practical life, she will be in a position to act as the child's vocational counselor and to help him to make a choice of a vocation as early as possible. Dr. Eliot says that the child should select his vocation early so as to give his education the benefit of a "life-career motive." When a boy has selected his life's work and realizes that what he is doing in school is a preparation for it, he is on the road to success, and there will be no trouble about his conduct or his application to his studies. In truth, motivation is the greatest need in our school work to-day. Many boys and girls come to school just because they are sent; some of them are driven; they have no interest in their work because they do not see that it leads them to anything. About the only lesson that many boys and girls learn in school is how to evade all real work, and, instead of their schooling being a means of education for them, it is many times positively demoralizing. What good does a boy get from ancient history when he has no interest in the

subject, his only aim being to get credit toward graduation, and when he is willing to play all kinds of tricks and work all kinds of schemes to "get by" the teacher without work? We dare say that less than 10 per cent of the boys and girls are interested in their work because of its value to them in preparation for life. Even those who make high grades are frequently actuated by false motives and nearly all think more of the credit than they do of the practical value of the subject. The lack of interest, low grade of work, and general carelessness and indifference are the greatest menace to our school work to-day, and the only solution of the problem is to adapt the school program to the present needs of the pupil and, as early as possible, inspire him with a "life-career motive."

Psychologists tell us that a study is worthless to the pupil unless he becomes self-active in it, and to become self-active in his school work the pupil must have a motive that will arouse his interest. What motive is there to actuate the boy who studies Latin because his father forces him to it, or because his playmate studies it? When the boy realizes that he can stay in school but a short time and the question of self-support is staring him in the face, what interest can he have in the binomial theory or the reign of Shalmaneser? When the boy has made up his mind to be a merchant, how can you expect him to be interested in those subjects in school that he knows he will never need? All teachers know the trouble they have in trying to get even average work done by boys and girls, but they seem to be willing to go on in the same old way rather than adjust the school to the needs of the child and to inspire him with a sufficient motive.

When the pupil has been inspired with a life-career

motive, he will work not merely to master his vocation but his enthusiasm will extend to his other studies. His English, his history, his mathematics, will not mean the same to him when he sees that they will help him along the line of his chosen work. He may even see the relation of the study of foreign languages to his future career, and, if he does, he is in a position to get some real benefit from it. In fact, it is not the purpose of vocational inspiration to narrow the pupil's interests, but to broaden them and make them many-sided.

SOME RESULTS OF FALSE EDUCATIONAL IDEALS

It is extremely important to-day in the education of boys and girls to inculcate a proper attitude toward work. The movement toward the education of all the people without changing our educational system to meet the new conditions has tended to create in the minds of many people the feeling that work is degrading, and all of us are dominated to a greater or less degree by the old conception of education that its purpose is to help us to keep from working. As Principal Lewis says, "there are thousands of men whom the Lord intended to follow the plow and drive nails, gouging each other and mulcting the public in the shabby genteel rush after patients, clients, and congregations. Pills and red tape are dispensed everywhere, but you have to hunt a long time before you can find the man who can plant the garden or fix the storm window. This is because our educational train has been through scheduled for the professions, and the thousands who found that they did not care to reach this destination have been bowled off like mail sacks wherever it happened, instead of being comfortably landed where they ought to have gone."

The report of the census of 1910 says: "It is a

significant fact that between 1900 and 1910, the urban population increased 34.8 per cent and the rural population only 11.2 per cent. The report shows that the farm acreage increased only 4.8 per cent. The cereal products increased 3.5 per cent in acreage, 1.7 per cent in quantity, and 79.8 per cent in value." This explains, in part at least, our high cost of living. So many people have left the farm that there are not enough remaining to supply the rest with raw products. Thus, all society has to suffer because of our false educational ideals, which have resulted in an improper vocational adjustment.

Not only has the old régime with its Latin, ancient history, and algebra absolutely failed in preparing men and women vocationally to perform their proper functions in society; but it has actually driven them out of school before they received even the rudiments of an education. Professor Thorndike of Columbia University, in a careful, scientific investigation of the elimination of pupils from the schools, says in a report made for the United States Bureau of Education that, out of every 100 pupils entering school, 10 have dropped out by the end of the third grade, 19 by the end of the fourth, 32 by the end of the fifth, 46 by the end of the sixth, and 60 by the end of the seventh. Only 27 enter first-year high school, 17 enter the second, 12 enter the third, and 8 enter the fourth year. He does not tell how many graduate.

As to the cause of the elimination, Professor Thorndike says: "One of the main causes for the elimination is incapacity for and lack of interest in the sort of intellectual work demanded by the present course of study." With this view such educators as Professor Dewey, ex-President Eliot, Dr. Cubberley, Dr. Winship, and, in fact, all the progressive educators of the day agree. The

governor of Massachusetts, a few years ago, appointed a commission to look into the question, and after a study embracing 5,500 children in over 3,000 homes this commission came to the conclusion that these boys and girls did not have to drop out of school because they were not able financially to stay in, but they dropped out because of a lack of interest in and appreciation of the course of study.

Yet, in spite of the failure of the old régime to meet the educational needs of the great majority of our people, we still continue to talk about high aims in education and cry "fad" if anybody says anything about the practical study that will interest boys and girls and keep them in school.

We do not want to leave the impression that we are in favor of the elimination of the old-time cultural study from our school program. Latin, ancient history, and algebra have served a noble purpose for a great many men and women in the past, and there is a class which they will reach at present; but the class is comparatively small. Granting that these old-time studies are good, there is a chance of one's having even too much of a good thing. We once knew an old doctor who prescribed just one kind of medicine: The first thing he did when he came into the sick room was to ask the patient to "stick out" his tongue, and we always knew beforehand the results of his diagnosis: "You need a course of calomel." Now calomel is a good medicine for many purposes, but this old doctor is the only one we ever knew who thought it was a remedy for all diseases. Latin is a good tonic for a good many boys and girls who have a taste for intellectual pursuits, but this is not true of the great majority of them, who are motor-minded, and we make a great mistake when we prescribe a dose

of Latin, algebra, and ancient history for every patient that comes to us.

PUT FIRST THINGS FIRST

One trouble with our educational system is that it is not adapted to the needs of the pupils; another is that it does not put first things first. Interested in what we call the higher things of life, we have lost sight of those things that are more fundamental. We are like the man who built his house on the sand. As long as the weather was fair, the sand foundation did as well as any other, and nobody could tell the difference between the house on the sand and that which was founded on the rock. But when the floods came, the winds blew, and the rain descended, the difference was easily seen. We suspect that the man who built his house on the sand even laughed at his neighbor for doing so much work in digging down to the rock for a foundation. When education was a luxury for the rich, rather than a necessity for the common man as it is to-day, it made but little difference what the boys and girls studied in school, just so they were acquiring some information their less fortunate neighbors did not have. But in this day of sharp competition, when conditions demand that everyone have that training which best prepares him for his place in life, it does make a great difference, and the difference is a matter of success or failure.

When we visited the Pan-American Exposition in Buffalo in 1901, we saw a house upside down. It was poised on the roof and the foundation was pointing upward. This house attracted the attention of everybody, for all knew that that was not the proper position for a house. All knew that the foundation should come first, then the body of the house, then the roof. This

is as true of education as it is of houses. The physical comes first, then the mental and the moral. Man never begins to advance in civilization until his physical needs have been satisfied. We may seem to be able to satisfy his higher needs before we satisfy the lower ones, but in attempting to do so we shall make a situation that is as ill-adapted to its environment as the house that was built upside down. The satisfaction of the higher needs always follows the satisfaction of the lower. This is why the missionary societies are beginning to see the importance of sending the physician to care for the body of the heathen along with the preacher who cares for his soul. This is why they are building hotels, sanitariums, bath houses, as they have never done before. They are no longer satisfied with merely teaching the people about the higher things of life. They are realizing that man is not in a condition to talk about the higher things until he is supplied with bread, meat, warm clothing, and sufficient shelter. The sad condition in many rural communities existing, in spite of the fact that much money is being spent to give them the advantages of good schools, is due to our trying to give them what we call the cultural side of education before helping them to satisfy their physical needs. The average man in such a community has to work so hard to secure a livelihood that he has no time to enjoy this culture if he had it. The first and most important thing is to give him skill in his vocation so that he can readily satisfy his physical wants; then he will have the time and the disposition to satisfy his higher desires. The vast amount of money appropriated by legislatures for rural schools will be absolutely wasted if it does not give the people of the rural communities greater vocational skill. These people must learn to plant and cultivate crops to advantage before

they will be in a position to appreciate the beauties of English literature and the mysteries of science and philosophy. This is true not only of the agricultural class; it is true of almost all other classes. They do not rise to higher standards of living except as a result of better vocational skill. Nor need we fear that by stressing the bread-and-butter side of life we shall lose sight of the higher aims. These higher aims are important, but we cannot satisfy them until we have satisfied the lower.

EDUCATION AND ECONOMIC PROGRESS

Then to say that making the vocational study the foundation of our public-school work would eliminate the higher conceptions of education is to take a shortsighted view of the process of social evolution. Education in the past has not been a determining factor in social progress because of its purely cultural aims. The determining factor in social progress is the economic. Civilization never goes ahead of economic progress. The world's present civilization was made possible by the industrial revolution of the eighteenth century. In that revolution the old order of things was overthrown and new forces were put into operation which make possible the high standards of civilization we now enjoy. If it had not been for this industrial revolution, which made it possible for man to satisfy his physical needs more easily, we should now be living under the same conditions as the man of the early eighteenth century. As a result of economic progress in the United States, the common man enjoys conditions of life that would have brought joy to the hearts of kings in past ages. He enjoys these conditions, not because of our educational system, but because conditions are such that he can supply himself with the necessities of life and have plenty of time left

for recreation and self-improvement. The public libraries, the public parks, the museums, the schools, and colleges have come into existence, not because his educational progress has caused him to demand them; but they are a result of economic progress and he has learned to appreciate them. In fact, most of these things are at first forced on the people by external conditions. Even the public school is forced on the people by the state, and, when there is an alternative, they often refuse to make the most of it. This is evidenced by the niggardly support most of the schools receive from the people. In most communities it seems to be the aim to pay the teacher the lowest possible salary, get along with the least possible equipment, and, indeed, to have the name of having a school with as little expense as possible.

To rise in civilization, men must be able to satisfy their physical desires and have time left for the prosecution of higher aims. According to Professor Gillette:

> Until approximately the nineteenth century, the wealthy classes furnished about all the men of talent. This was not because talent was confined to that class; but the rest of mankind had to work so incessantly to make a living that they had no time or opportunity for culture. In Greece, it was the wealthy classes who owned the slaves to make a living for them, that furnished the artists, the men of letters, the philosophers, and the statesmen.[1]

Men were ignorant during the Middle Ages because they had to work so incessantly that they had no time for self-improvement. To-day, in America, all classes are contributing to achievement because all have sufficient leisure for self-improvement.

With short hours and higher wages, all have time for the prosecution of higher aims; but when economic conditions are not right, all the institutions of learning in

[1] *Vocational Education*, p. 108.

the world cannot cause man to rise in civilization. The only way to be sure that we shall keep on progressing toward better things is to see that every man has the vocational skill to satisfy his physical needs and has time left for self-improvement.

LACK OF VOCATIONAL SKILL CAUSE OF POVERTY AND CRIME

The importance of vocational skill is also seen in its relation to poverty and crime. In the United States, the richest country in the world, in a fairly prosperous year there are over ten million people in poverty, over two millions of workingmen are employed from four to six months in the year, over five million women who should not be working find it necessary to work. About ten million people now living will die of tuberculosis caused by improper conditions of life due to poverty. The total cost of this poverty to the United States has been estimated at fifteen hundred million dollars, to say nothing of the suffering, the wretched lives, and the blasted hopes.

The cost of crime every year in the United States has been estimated at $1,075,000. There are 250,000 people in the United States making a living by crime. When we consider the loss to society of the productive power of those who devote all their time and those who devote only a part of it to crime, the cost is beyond comprehension.

Those who are in a position to know tell us that poverty is due, in the great majority of instances, to a lack of vocational skill. Professor Gillette says that much of the poverty is due to inability to compete with more skilled labor.

Mr. Carrol D. Wright has said that "hunger leads

to more crime than any other cause" and that "labor properly remunerated is a guarantee against crime." The lack of proper training has a large share in producing criminals. Of 4,340 convicts in the state of Massachusetts, 68 per cent had no vocation; in Pennsylvania, 88 per cent of the convicts had no vocational training; 68 per cent of those sentenced to jails and work houses in Pennsylvania had no occupation. Of the homicides committed in the United States in 1890, 74 per cent were committed by men without a vocation.

As evidence of the effect of vocational training on pauperism and crime, it is said that not a single graduate of the Hampton and Tuskeegee institutes can be found in any jail or state penitentiary. All those who attend these institutes are taught trades, and more than 90 per cent of them are successful. If vocational training has had such a wonderful influence for good among the negroes, who can estimate its possibilities for our own race?

When we have considered the cost to society caused by poverty and crime, we have hardly begun to estimate the real cost due to a lack of vocational training. If we take into consideration the positive misery, the undeveloped characters, the unattained ideals, and the unwholesome social conditions, the loss cannot be estimated in terms of money. We talk about the higher things in life, and are afraid that the material will be unduly emphasized; but our educational system, as it is organized at present, makes it impossible for the great mass of the people to enjoy these things. In fact, those who take our school course and get anything from it are those who could best afford to do without it. They are in such a condition that they could get along fairly well without the help of the public schools. It is those whom

the system does not reach that need it most. The greatest need of those whom our schools are driving away is not Latin, Greek, formal mathematics, and book science. Their greatest need is vocational training in its broadest sense.

Enough has been said to prove the importance of vocational training in individual progress. In the past, education has followed economic progress and has been determined by it; but when vocational training is made the center of public-school work, it will be a determining factor. In our present education we are dominated too much by the ideals of the past, when education was not intended for the masses, but for the chosen few; and we are violating the spirit of public education by trying to adapt the ideals of the past to present conditions. We are too much dominated by the idea that the child is heir to the learning of the past ages and that it is the function of the school to bring him into his inheritance. The reason the boys and girls leave school in such numbers is that they cannot see that the history of Chaldea, Latin, Greek, and conic sections will help them to make better merchants, farmers, mechanics, or housekeepers. In the past when competition was not so sharp as it is to-day, when ideals were not so high, when education was regarded as a special attainment for the man of leisure rather than as a positive necessity for the average man, the inadequacy of the purely cultural aim was not so evident. But in this age of the concentration of capital, when man is pitted against man in a way the world has never known before, when the apprentice system is fast passing and can no longer be regarded as an effective means of giving vocational training, the inadequacy of the cultural aim is evident to all. Those whose eyes are not completely blinded by tradition can

clearly see that the schools must give the boys and girls vocational training or turn them loose in the world unable to cope with its problems.

Topics for Report and Investigation

1. Vocational guidance in the United States.
2. Vocational education in the United States.
3. The economic factor in civilization and its relation to education.
4. The Gary school system.

Further Readings

Bloomfield, Meyer. *The Vocational Guidance of Youth.* Houghton Mifflin Co.

Brewster, Edwin Tenney. *Vocational Guidance for the Professions.* Rand McNally & Co.

Cubberley, E. P. *Changing Conception of Education.* Houghton Mifflin Co.

Dickson, Marguerite Stockman. *Vocational Training for Girls.* Rand McNally & Co.

Gillette, John M. *Vocational Education.* American Book Co.

Lewis, William D. *Democracy's High School.* Houghton Mifflin Co.

Puffer, J. Adams. *Vocational Guidance—The Teacher as a Counselor.* Rand McNally & Co.

Snedden, David. *The Problem of Vocational Education.* Houghton Mifflin Co.

Weeks, Ruth Mary. *The People's School.* Houghton Mifflin Co.

CHAPTER VIII

AVOCATIONAL EDUCATION

WESTERN civilization has reflected four purposes of education. They are usually designated as the ends or aims of education. One of these aims is the *perfection of character* and implies the harmonious development of all those attributes that contribute to individual well-being and happiness. Another is *culture*, and by the term we mean a knowledge of the social, literary, and aesthetic heritage of the race, without reference to the use or application of this knowledge to particular ends. *Discipline*, or the training of the mental faculties without reference to special functioning processes, is another aim that has been widely recognized in education. *Vocational training* is the fourth end of education and implies special training for a definite, particular purpose. All of these are clearly understood by the educator and are given recognition throughout our system of schools.

The object of this chapter is to show that another aim of education should find a place in the educational thought of the times. Some have made it synonymous with culture. Others have assumed it to be an extension of the cultural ideal of education and a complement to vocational education. It makes large use of the disciplinary idea of education and it is designed to get its compelling force from the character-product of educational accomplishment. It may be designated as *avocational education*. A reference to the dictionary shows that avocation means "the calling away or withdrawal of a person from an employment," or "a milder or less important occupation, a by-work." Vocation as

contrasted with avocation means "employment, occupation, business, trade, professional and mechanical occupations" that may be pursued as a means of livelihood. The word "avocation" is generally used to designate those social activities that are not performed as a part of a regular or economic employment. Such tasks are usually performed without the expectation of financial reward. It is not to be inferred, however, that all avocational activities are of this nature. There are conditions under which men perform avocational tasks purely through economic motives, and the work performed may not contribute directly to social welfare. Such activities, however, are not under consideration in this discussion. The problem of avocational education grows out of the social significance of human effort. Such activities are not to be regarded as of less importance than economic occupations. It is a "by-work" only in the sense that it is not vocational. It is not necessarily even a by-product of vocational effort. It may have no connection whatever with the routine occupations of life.

THE JUSTIFICATION FOR AVOCATIONAL EDUCATION

Two facts underlie this new aim in education. In the first place, society has greatly increased in complexity in modern times. In the second place, the opportunity for leisure and the number of people who will enjoy its blessings have greatly multiplied under changing political, economic, and social conditions. These are significant facts and they represent correlative values. With the increasing complexity of the social order have come new demands upon social effort. The energies released by the change in economic demands are now available for social use. In a simpler social order the requirements of society could be met in an incidental way without

the need for special training. This is no longer possible. We are now teaching that independent states and distinct nationalities have the right of self-determination with reference to their internal organization. The acceptance of this doctrine calls into action a trained citizenship. Every independent nation is constantly being confronted with complicated economic and social problems that have close interrelations with political action. The application of social justice to many concrete situations requires a high order of intelligence and lofty standards of ethics. Family relations, religious activities, and aesthetic influences present endless problems of great complexity that demand the consideration of experts specially trained to deal with particular aspects of these problems. It is to be observed, of course, that many of these problems have created a demand for vocational effort for which special training has been provided, but many others are still to receive attention by unpaid workers with a passion for social service. These conditions compel us to recognize the necessity for a new type of educational training. The hope of sustaining a progressive society is in the recognition of the necessity of supplementing existing educational courses with courses that will meet the needs of avocational requirements.

The importance of special training for political life is well presented by Professor Walter Robison Smith. He says:

> Economic intelligence is the outgrowth of training for vocational life, social intelligence of training for social life, and cultural intelligence of training for avocational life. These three phases of intelligence form the best foundation on which to build political intelligence. All political action, except that dealing with the mere structure and outer form of government, demands a knowledge of one of the other phases of life. It remains, however, for the State

to protect itself by guaranteeing that each citizen, and particularly each voter, shall gain a knowledge of his responsibilities to the Government, and the methods of exercising those responsibilities, and that he develop a proper attitude toward its varied activities. The good citizen must not only obey the law; he must help to make and enforce it. Consequently explicit training is required along political as well as along the other lines.[1]

The good citizen must do much more than obey the law or help make or enforce it. In fact, the best test of good citizenship is revealed in those aspects of life in no way connected with the law enforcement. The sense of community responsibility is the clearest test of loyal citizenship.

THE OPPORTUNITIES OF THE LEISURE CLASS

Employment and achievement in human society are largely promoted through the opportunity and use of leisure. Groups of workers whose opportunities for leisure are shut out by long hours of economic employment do not and cannot contribute substantially to social welfare.

The leisure class [says Professor Smith] continues to progress only as it elevates avocational interests into vocational accomplishment. A large share of the orators, painters, writers, statesmen, musicians, inventors, scientists, and philosophers who have made original contributions to society have done so by virtue of serious work along avocational lines. Many of them, including such men as Darwin, Spencer, Bismarck, Gladstone, and Roosevelt, have had no vocations, but others, such as college professors, physician-scientists, and lawyer-statesmen, have carried on vocational activities at the time they were making their avocational contributions. Inventors, artists, and littérateurs often do their best work for little pay and make their living by more ephemeral labors. As leisure is spread through the masses under modern improved conditions, avocations that are culturally useful must be given them and they must be inspired to employ them in both self-improvement and community betterment.[2]

[1] *An Introduction to Educational Sociology*, pp. 151–152.
[2] *Op. cit.*, p. 149.

Under the demands of modern society leisure has acquired a dynamic significance. The term no longer implies inactivity. "An habitual neglect of work," says Veblen, "does not constitute a leisure class; neither does the mechanical fact of use and consumption constitute ownership."[1] Not only is some form of activity expected, but social pressure is being exercised to compel the direction of human effort into constructive channels. "The conspicuous leisure," of which Veblen spoke, that included "calls, drives, clubs, sewing-circles, and sports" does not meet the demands of present-day society. Emphasis is now being laid upon the conservation of human effort and its wise direction. Leisure is now used not only for recreation, but for other activities with a more serious purpose.

The more complex our civilization becomes, the more important it will be for our leisure to be used for social ends, and the greater the necessity for the sacrifice of profitless recreation. This abstraction can be concretely illustrated by conditions created by the war. The war has greatly increased the social needs and problems of the country. The Red Cross, the Young Men's Christian Association, the war library, recreational camp activities, Liberty Loan and savings-stamps campaigns, problems of food production and conservation, the dissemination of information relating to the causes of the war, and many other social activities have been thrust upon the people. These are new problems to us. There are relatively few men and women with previous preliminary training to undertake these social tasks. To the credit of the nation, men and women have responded promptly and in liberal numbers. But it is not surprising that it has been impossible to prevent waste of social effort

[1] *The Theory of the Leisure Class*, p. 22.

through defective coördination of social effort and inexperience in the performance of social tasks. Successful business or professional experience has proved not to be adequate preparation for the successful solutions of complicated social problems.

It is probable that one of the lessons that the war will teach us is that of the necessity of preparing the forces behind the lines for constructive, coördinated social efforts in time of war. *There is a liability for social service as well as a liability for military service.* Its recognition should be included in any program of national welfare, but we must not forget at the same time that in this realm there is a need of preparedness for effective social effort in peace times. Some of the factors and conditions entering into this problem will now be presented.

THE PHYSIOLOGICAL BASIS OF SOCIAL ACTIVITY

If avocational education is to function in leisure hours, it is important to consider the physiological effects of the use of free time for such purposes. The nature of vocational employment and the hours consumed constitute an important factor in this problem. But the relation of work to fatigue has an important bearing upon the extent and the possibilities of social effort. Fatigue may be defined in terms of its effects on effort, or the sensations produced on the individual as a result of long-continuous hours of labor. These definitions may be formulated as follows: Fatigue is the decreased capacity for work as determined by quantitive production; or it is a sensation of lassitude that produces a disagreeable feeling. The signs of fatigue are weariness, decreasing interest, tendency toward inattention, and, in extreme cases, headache and similar uncomfortable sensations.

Fatigue may be traced to two causes: (1) the consumption of an energy-producing substance, (2) the generation of certain poisons that affect the system. The energy-producing substance is called *glycogen*. This is a chemical product produced in the liver and muscles from substances extracted from the blood. Muscular energy is liberated when oxygen from the blood unites with this glycogen. The liver acts as a reservoir for the storage of glycogen and replenishes the muscular supply when it becomes exhausted. But long and strenuous activity exhausts the supply of glycogen in the muscles and greatly reduces the supply in the liver. Complete exhaustion follows the complete consumption of all the glycogen from the liver and muscles, and restoration comes slowly as the supply is renewed.

Nature has provided a means of preventing this condition, however, by providing for another reaction to physical exertion. Certain by-products, including lactic acid and carbon dioxide, are generated as the energy-producing product is formed. These act as a poison to the tissues, and a sufficient quantity of them will affect muscular action. The sensation produced by the reaction of these poisons is always felt before the absolute exhaustion of the supply of glycogen, and fatigue under normal conditions is due to this cause. It should be observed that under normal and not too prolonged activity these poisons are absorbed so rapidly that no effect is produced by them.

As avocational work is usually a change from vocational activity involving physical exertion, another question enters into the consideration. Is nerve fatigue due to the same causes as muscular fatigue? This question depends upon a more fundamental one: Is it possible to distinguish between muscular and nervous fatigue?

There is some evidence to support the theory that nervous fatigue is traceable to the reduction of an energy-producing content. There is a possibility that nerve fatigue is due to the consequence of fatigue-products passing from the muscles into the blood. This theory is supported by the fact that violent physical exertion continued for some time always produces mental lassitude. It has not been possible to separate sufficiently muscular and nervous fatigue, under normal conditions, to justify safe conclusions. This intimate reaction would seem to indicate that both fatigue of nerve and fatigue of muscle are due to the same causes; namely, the reduction of the energy-product in both muscle and nerves and the reaction to accumulated poisons resulting from physical and mental exertion.

Some effort has been made to consider mental fatigue as a different phenomenon from nervous and muscular fatigue. But it seems justifiable to regard mental fatigue as a term to indicate the joint reaction of nerve and muscle to prolonged activity. The intimate correlation of nerve and muscle activity seems to justify us in regarding this as a mere academic question.

Three stages of muscular work are described by Miss Josephine Goldmark in her admirable study of this subject: "First, when working power is on the increase and excitability is growing; second, the period when the muscle is in its best working condition, its excitability highest; and, third, the period when fatigue products clog the muscle more and more until contraction is finally forced to cease."[1] The object of training is to prolong the first two stages and retard the third stage. This is accomplished by increasing the cell capacity to generate

[1] *Fatigue and Efficiency*, p. 35.

energy-products, and at the same time by giving to the tissues greater resistance to accumulating fatigue poisons. The analogy to this process is seen in bodily adjustments to poisonous drugs. It is possible for the habitual user of harmful drugs gradually to increase the amount consumed to such quantity as would produce death in the person unaccustomed to taking them. Physical and mental training performs a similar task for nerve and muscle.

The point of this discussion for this study is the influence of fatigue on the change from vocational to avocational activities. Is fatigue prevented by a complete change of occupations? Is rest secured only by a complete inactivity, or may it be secured by change of occupations? The effect of prolonged inactivity is well described by Lester F. Ward. He says:

> Prolonged inactivity becomes intensely painful. Thus imprisonment becomes a terrible punishment. The pain resulting from inactivity is called ennui. Many leisure-class authors have painted the horrors of ennui. Helvetius indulges in an apotheosis of compulsory labor as a sure escape from ennui, and truly says that the pain of fatigue cannot be compared to that of ennui. It is on this ground more than any other that he and other authors insist that the poor are happier than the rich. Montesquieu says that they ought to have put continual idleness among the pains of hell, and Schopenhauer declares that while want is the scourge of the lower classes, ennui is the scourge of the upper, and that all the hope that is held out for the future is a choice between the torments of hell and the ennui of heaven.[1]

This disposes of one aspect of the question. If Ward is correct, we shall be justified in turning to the other phase of the question raised in this discussion. In a recent study of this subject by Professors Hollingsworth and Poffenberger the following answer is given:

[1] *Applied Sociology*, p. 244.

There are two answers possible to the question as to whether a change of occupations is a rest. If fatigue is due to the local exhaustion of energy-producing material or is due to the local accumulation of fatigue poisons, then fatigue itself can be considered a local condition, and a change of occupation requiring the use of other mechanisms than those affected by the previous activity, would constitute a rest. If, on the other hand, activity causes a general reduction in the supply of material by drawing from the blood stream the necessary constituents, and general poisoning by throwing into the blood stream the poisonous by-products of activity, which are then circulated through the body, change from one occupation to another requiring equal activity would not constitute a rest. Practically every case of activity of a limited sort produces both a local and a less pronounced general transferred fatigue. The supply of material does not immediately follow the demand, hence other parts than those which have been acting may be relatively fresher. But the total amount of fatigue is not reduced by the shift of activity.

When the second task is easier than the first, that is, requires the consumption of less energy, then it will give rest or relief when compared with the effects of a continuation of the original work. It would be better to say that there is in such a case a relative reduction in the amount of energy consumed. Usually the changes of occupation which we make when tired are toward the easier and more pleasurable tasks. One's own inclination seems to take care of that, so that the common impression is likely to be that changes of occupation are a distinct rest.[1]

Most natural occupations cause a general reduction in the energy-producing product, and, therefore, a change of occupations does not produce complete rest. This situation calls into account another factor that enters vitally into the problem of avocational opportunity.

THE SOCIOLOGICAL BASIS OF AVOCATIONAL ACTIVITIES

The problem of avocational activities then must be considered in the light of the nature, period, and conditions of vocational employment. The extent of overstrain

[1] *Applied Psychology*, p. 148 (1917).

and the number of hours of continuous employment enter vitally into a consideration of this subject. Obviously a body in which every muscle and organ is completely tired out would require a longer time and more complete inactivity to restore its total energy-content than one in which local and limited exhaustion of the energy is experienced. Long hours and generalized work produce the former effect; shorter hours and specialized employment yield the latter results.

Overstrain is usually produced from highly specialized and complex industrial occupations. Those activities that involve speed and complexity, minute processes, piecework, and monotony are fatiguing, although only few muscles and organs are usually involved. Where any of these conditions are accompanied by noisy machinery and mechanical rhythms, nervous fatigue may accompany local exhaustion of particular organs and muscles.

The reduction in the number of hours of the working day is a significant factor in this problem. The demand for a shorter working day on the part of organized labor has been one of the most interesting aspects of the labor problem. There has been a gradual reduction in the number of hours of labor per day under the insistent demands of labor influence. In the beginning of the nineteenth century the working day may be conservatively estimated to have averaged approximately twelve hours, and in many occupations fourteen to sixteen hours was the prevailing period. Fourteen hours was required in some industries even until 1880.[1] The Bureau of Labor in an investigation of the hours of labor of 4,000 manufacturing plants in the United States found that the average number of working hours per week had been

[1] Carleton, *History and Problems of Organized Labor*, p. 137

decreased in the ratio of 100.7 to 95.0 between 1890 and 1907.[1]

An eight-hour day has been the aim of organized labor. The pressure was first felt in the case of unhealthful and hazardous occupations and in the case of unusually influential unions, but many things, including inventions, steam, and electrical power, have contributed to this movement. Recent federal legislation with reference to railroad employment which was initiated by President Wilson seems to have made the eight-hour day a certainty in American industrial life.

The effects of this reduction of the working day are destined to produce a profound influence on the habits, the standards of living, and the influence exerted by the industrial classes affected by this change. This movement is gradually creating leisure for a large number of men and women who previously, owing to long hours, were engaged in vocational activities to the limit of their physical endurance and capacities. It is not to be presumed that the release of human energies of thousands of people will be immediately directed toward useful ends. In many cases the temporary and immediate effects have been decidedly harmful. Some thought must be given to a means of redirecting these released energies into social and useful channels. Two problems appear at once: (1) In the first place, it will be necessary gradually to enlarge the program of healthful recreational activities. (2) In the second place, plans must be devised that will direct a part of the available free time into educational opportunities. The first problem will greatly enlarge the scope of social service. The second problem will enlarge the scope of the curricula of schools and colleges and other less formal educational agencies. Educational

[1] *Bulletin No. 77*, July, 1908.

facilities must be provided and methods devised to prepare the millions of workers and prospective workers who are gradually acquiring from two to four hours of leisure that were formerly given to toil for enlarged opportunities to live completely by contributing to the welfare of society.

THE NEED FOR AVOCATIONAL EDUCATION

Is special training necessary for those whose social efforts will be incidental to some formal economic vocation? It has been presumed in the past that little, if any, previous preparation was required. It has been assumed that the same standards of efficiency are not necessary for both vocational and avocational activity, but in recent times new ideals have been established with reference to these social activities. The complexity of the problems, and in many cases the scientific aspects of them, have resulted in the transforming of avocational activities into vocational employment. Social service in its application to particular problems has created this demand. There are now in process of transformation many incidental social tasks that will soon become established technical vocations. The colleges and universities of the land have recognized this situation, and many courses have been provided to meet the needs of persons training for expert social work. But if it is recognized that technical training is necessary to secure efficiency on the part of those who devote a normal day's work each day in the week to some of these social tasks, does not the same logic suggest that it is equally important to supplement vocational training with training for social service for those who would seriously undertake to do some of this work at times when they are not engaged in regular employment?

The identical considerations that have secured vocational training for our school systems will apply to avocational education. In the first place, we are confronted with the same facts with reference to the necessity for special training for this service that existed a generation ago with reference to industrial training. The same difficulties also exist for the one as for the other. Skill in a trade is acquired by application of the principles to that special work. The same is true of constructive social effort. The advocates of vocational education were confronted with the particular problem of providing additional equipment for the multiplicity of trades. The advocates of avocational education are confronted with the problem of providing additional courses that will function with reference to the variety of social activity. To prevent the misdirection of educational effort in vocational training, it has been necessary to give attention to vocational guidance. Avocational guidance will create a social problem that must accompany education for social service. The recognition of the need of vocational education created the problem of finding a place in the curriculum for it. This problem will accompany the recognition of the need for avocational education. The fact that we recognize these problems and have practically solved them with reference to vocational education will guide and help us in supplying a place for this new type of education. Avocational education will surely find a secure place in our educational system.

This prophecy is supported by two facts: (1) The leisure class has gradually increased numerically until it comprehends most of mankind. This leisure does not come to all men to the same extent, but relatively all classes and conditions of men possess it. (2) The complexity of social life calls for intelligent efforts based upon

specialized training. The very leisure that the industrial classes have acquired compels attention to the problem of its wise direction.

No complete conspectus of our social situation has been formulated. The reason is obvious. In the first place, the expansion of social needs is occurring so fast as to make such an exhibit obsolete in a very short time. In the second place, the task presents almost limitless divisions, subdivisions, and correlations. Albion W. Small has probably been most successful in this undertaking. In his *General Sociology* he has attempted to formulate the entire scope of social achievements as follows:[1]

1. Achievement in Promoting Health.
2. Achievement in Producing Wealth.
3. Achievement in Harmonizing Human Relations.
4. Achievement in Discovery and Spread of Knowledge.
5. Achievement in the Fine Arts.
6. Achievement in Religion.

Professor Small goes further and attempts to fill in some of the details under each of these grand divisions, but he recognizes that it is far from complete. The student of social problems can at a glance see the necessity for adding many other details in this program, most of which have appeared since Professor Small wrote his book. The topics in many of Small's classifications suggest the importance of social technology.

THE PLACE OF AVOCATIONAL EDUCATION IN OUR SCHOOL SYSTEM

The recognition of the rightful place of this type of education is the surest way to secure the complete socialization of educational aims.

[1] *General Sociology*, p. 718.

John Dewey says:

All the educational reformers following Rousseau have looked to education as the best means of regenerating society. They have been fighting against the feudal and pioneer notion that the reason for a good education was to enable your children and mine to get ahead of the rest of the community, to give individuals another weapon to use in making society contribute more to their purse and pleasure. They have believed that the real reason for developing the best possible education was to prevent just this, by developing methods which would give a harmonious development of all the powers. This can be done by socializing education, by making schools a real part of active life, not by allowing them to go their own way, shutting off all outside influences, and isolating themselves.[1]

This process of "socializing education" by merely incorporating industrial subjects in the curricula of the public schools fails to recognize all the factors in the problem. The socializing process will be incomplete until three changes are effected: first, the subject matter must be altered and extended to give a social point of view; second, the teacher must constantly present the subject matter from the standpoint of its functioning values; third, the student must be made to realize more clearly the ends to be accomplished by the knowledge he acquires.

Is the aim of all this discussion a plea for the addition of other subjects to the already overcrowded curriculum of our schools? This is a question that naturally arises at this point. For almost a generation we have heard of this problem, but a place has been found for industrial subjects in home economics. The colleges and universities have been compelled to recognize the right of the secondary schools to adjust their course of study to meet local needs. The domination of the high schools of the

[1] *Schools of Tomorrow*, p. 173.

country by the higher institutions of learning through inelastic and arbitrary collegiate entrance requirements is rapidly passing away. The pragmatic test is being applied, and the subject that fails to meet this test is assured of a place in the dump-heap. The people who support the secondary schools are now demanding that their courses of study function with reference to local needs as well as prepare young men and women for collegiate training.

The training for social effort in the local communities is now being recognized to be as worthy of recognition in the high school as industrial training. It should be recognized that the complementary nature of these activities tends to preserve, to coördinate, and to unify the elements of the curriculum rather than needlessly to extend and to burden the curriculum.

The professional classes are in need of avocational training to meet the social demands that will be placed upon them. Ministers need a technical knowledge of the application of social justice to industrial relations. Lawyers need to understand the principles of social legislation, and the conditions that make it necessary. Physicians are often called upon to serve on sanitary boards and to act as health officers—positions which require a knowledge of sociological principles and public health methods. Teachers are called upon to perform all kinds of social service, including religious work, civic improvement, and the direction of recreational activities. Most of these activities lie beyond the scope of the professional curricula. The men and women who desire to serve best must include in their educational training courses that relate to their professional careers. But a much larger recognition must be given to the problem than that of merely recognizing the social responsibilities

of the professional classes. Practically every man is now expected to render a more or less direct service to his community. Therefore the high school must recognize its relation to this problem and prepare to meet it. Of course the demands will vary somewhat in different communities. The wise school officer will attempt to catalog the social activities of the community in which he serves, and he should attempt to formulate his high-school curriculum to meet the social requirements. Every community has its religious work, its civic welfare organizations, its public boards of control, and its literary and aesthetic activities. In the larger communities these activities are greatly extended and multiplied. Courses in economics, political science, including civics and sociology, should find a place in every curriculum where these social needs are to be met. The influence of particular organizations almost demands that the course of study provide a place for parliamentary procedure. Based upon these fundamental courses, such special courses should be provided as the community needs may suggest. "Never before," says Dewey, "did the work of one individual affect the welfare of others on such a wide scale as at present."[1]

This is the thesis that this discussion attempts to present and it is hoped that the argument presented will result in its recognition and acceptance.

Topics for Report and Investigation

1. The recognition of Intermediate subjects as a basis for avocational high-school courses.
2. The place of social science in the high-school curriculum.
3. Methods of determining community demands for avocational courses.

[1] *Op. cit.*, p. 244.

4. The principle that determines the limits of special courses to meet avocational needs.
5. The responsibility of the school for socialized efficiency.

Further Readings

Dewey, John. *Schools of Tomorrow.* E. P. Dutton & Co.
Goldmark, Josephine. *Fatigue and Efficiency.* Survey Associates.
Hollingsworth and Poffenberger. *Applied Psychology.* D. Appleton & Co.
Kerschensteiner, Georg. *Training for Citizenship.* Rand McNally & Co.
Sizer, James Peyton. *The Commercialization of Leisure.* Richard G. Badger.
Smith, W. R. *An Introduction to Educational Sociology.* Houghton Mifflin Co.
Veblen, T. *The Theory of the Leisure Class.* Macmillan.
Ward, Lester F. *Pure Sociology* and *Applied Sociology.* Macmillan.

CHAPTER IX

NATURAL APTITUDES AND THEIR CONSCIOUS DIRECTION

THE recognition of individual aptitudes is one of the growing tendencies in modern education. It is rather surprising that so little has been done to evaluate individual abilities and to direct them consciously into proper channels. If psychology in the near future shall enable us to discover means, or invent expedient tests, for the measurement of mental capacities, it will perform a service of inestimable value to the cause of education. There is a growing belief that the measurement of aptitudes is not an impossible undertaking. Schneider in discussing this problem says:

> Every individual has certain broad characteristics and every type of work requires certain broad characteristics. The problem, then, is to state the broad characteristics, to devise a rational method to discover these characteristics (or talents) in individuals, to classify the types of jobs by the talents they require and to guide the youth with certain talents into the type of job which requires these talents. This is a big problem, but one possible of measurable solution, or, at worst, possible of a solution immeasurably superior to our present haphazard methods.[1]

On the pathological side, social demand that the defectives be housed in separate institutions has developed some tests of mental ability. On the other hand, the abnormal as well as the subnormal mind has been studied to some extent. But the individual differences in average mental types have received scanty consideration up to the present time. Little account has been taken of interests and of instinctive and emotional qualities.

[1] H. Schneider, "Selecting Young Men for Particular Jobs," *Bulletin 7*, National Association of Corporation Schools.

Aptitudes are factors in the adaptability of pupils to subject matter in courses of study as a means of qualifying them for congenial vocational endeavors.

Individuality is both a mental and a physical phenomenon. Like mental traits are no more common than like physical traits. Thorndike has repeatedly told us that a typical mind is a fiction. We have long known that there was no physical type. *Eunoia*, or right-mindedness, is a term designed to convey the idea of high mental normality. The term implies strong will, good memory power, vivid imagination, and logical reasoning. But this type *mind* is not delegated by nature to groups of individuals. Exact duplication of such a mental type does not actually exist. On the other hand, deviation from, and endless modification of, this hypothetical mental type give individuality to mentality, which is as obvious as individuality in physical life. The change in the point of view in modern psychology from the consideration of the subjective state of mind to that of the study of human behavior has tended to magnify the importance of these individual differences.

The *causes* of mental variability are not to be ignored in a consideration of the nature and amount of it. In a general way we have recognized that these differences may be traced to heredity, sex, race, age, physical endowments, normal or retarded physical and mental development, and various environmental influences. This knowledge enables the teacher to know what differences are due to causes beyond social control and what differences, on the other hand, are traceable to causes that can be removed or modified if they tend to retard mental development.

An interesting theory is that the mental development of each individual passes through all the stages of idiocy,

imbecility, weak-mindedness, normal intelligence, and even superior mentality, if not arrested by some counteracting influence.[1] This is analogous to the old theory of recapitulation and cannot be supported by many substantiating facts. But it deserves further consideration as a source of information relating to the causes of individual differences.

Whatever may be the causes and infinite variability in individual mental differences, we must not overlook the fact that it is important to classify, or group, individuals on the basis of conformity to, or variation from, a relative normality. For purposes of general classification we may consider three groups, as follows:

1. *The subnormal or defective group.* There is a relatively small group whose mental disabilities outweigh their abilities. These are so deficient in aptitudes that they cannot adjust themselves satisfactorily to environmental conditions. This class is easy to recognize as a rule because variations are so extreme as to make their behavior contrast with the behavior of the more nearly normal types. For purposes of classification we may recognize two subclasses of the defective group: (*a*) those whose normal behavior is extreme, as in the case of the feeble-minded; (*b*) those whose behavior is relatively normal except at irregular intervals, as in the case of epileptics. There are many other mental defectives, and the study of abnormal psychology has contributed much to our understanding of the problems and possibilities of the members of this class. Separate institutions in all ages since the beginning of the Christian era have been provided for some of the mental defectives. As we have come to understand the differences in the members

[1] See Chancellor, "The Adult Hypermoron," *New England Journal of Education*, February 14, 1918.

of this group, differentiated institutions have been established for the care of those belonging to this class. Social agencies have not yet recognized the full significance of individual differences existing among those composing this group. Educational methods must be readjusted to the end that any latent aptitudes or abilities that exist may be recognized and made to function properly. We have just begun to understand that many of our mentally defective people have often been misunderstood, neglected, and mistreated. There are undeveloped opportunities for the study of abnormal psychology that should challenge the best intellects of the race in developing and recognizing latent possibilities and potential talents in the mentally defective, many of whom are now being unscientifically grouped with other unfortunate classes where their mental powers are gradually being atrophied.

2. *The supernormal class.* In recent years educators have been giving attention to the children with exceptional mental endowments—children whose aptitudes far exceed their disabilities. The problem of training this class has been met in various ways—notably by grouping them in segregated classes and giving them superior advantages. This group has been sorely mistreated by the lock-step method of group instruction. Latent aptitudes have been neglected and emerging talents have been submerged in the floods of a pedagogical fiction known as "class average." The contention is not made that the exceptional child possesses a type mind that justifies class grouping. Individual differences should be recognized here as well as in other classes that are grouped according to mental responses. The fact is that superior mentality indicates marked individuality, and group instruction becomes less desirable, on the whole, than in the case of the more nearly normal-minded. It is not only

important to recognize the richly endowed child, but it is equally important to differentiate the talents that are manifested. With due consideration the normal developing of those talents should be recognized and stimulated under the most favorable conditions.

3. *The normal-minded.* A study of mental processes and reactions (behavior) presents the obvious fact that between these extremes (subnormal and supernormal) we have the mentally efficient whose abilities offset their disabilities by a safe margin. In regard to aptitudes the majority of individuals approximate an average mentality. The number of individuals decreases as we diverge from the average in the direction both of the supernormal and of the subnormal. By "average" is meant those whose mental reactions in the normal affairs of life are such as not to leave the impression of being peculiar or unusual. The public-school teacher is largely concerned with the child that displays no marked idiosyncrasies or obvious mental defects. The organization and the program of study in our public-school systems at present nowhere offer opportunity for any definite study of the aptitudes of the individual child. The average teacher is not impressed with the importance of such a study. Our educational system emphasizes grades based upon responses, either oral or written, to questions based upon subjects selected for another purpose. The teacher is required to preserve these grades in formal records at the end of the year as the child progresses and passes from course to course or from grade to grade. These records consist of more or less inaccurate data, depending on the care and judgment of the teacher who made them. These records have been of little use to the student, his parents, or the college authorities as a means of directing the individual to a choice of professional courses. At

most they simply indicate that the pupil has completed a definite amount of work in a more or less satisfactory way. A student of educational problems must know that this information is not of great value. There is no actual correlation between the high averages of the student in the high school and in the subsequent courses of the professional school. On the other hand, if the student should unwisely select a professional school course for which he was poorly adapted, it is likely that his collegiate grades will be relatively low, although his high school averages were high. If there is no correlation then between high-school and collegiate records for the single individual, what is the object of devoting so much time and effort to the accumulating of grades during the progress of the pupil through the lower schools? What is the practical value of these records other than to show that the student has met a certain arbitrary standard that entitles him to promotion, or finally to graduate from high school? After all, does not the average teacher know without these formal grades whether pupils have appropriated a sufficient amount of information to entitle them to promotion without the expenditure of a large amount of energy and time in the tabulation of the large number of grades that she is silently aware are not very accurate? Would it not be more in harmony with modern tendencies in education to use the time devoted to tabulating grade records in formulating data on aptitudes and defects that manifest themselves in behavior that grows out of the reactions to subject matter, and in coördinating effort in class tests and playground activities? It is certainly true that this information would be more useful to the child in determining the direction of future activities than we can reasonably expect the present grade system to be. Of course due allowance must be made

for inaccuracies of judgment on the part of the individual teacher.

It is not contended that every teacher is totally indifferent or unaware of mental traits that manifest themselves in the progress of class instruction. Obviously the extent of this information depends upon the teachers' power of observation, their personal interests in their pupils, and the accuracy of their judgments. But relatively little importance is attached to the information acquired, and no facilities have been provided for preserving these facts for teachers of subsequent grades. A record made up of the conclusions reached by a teacher who is in more or less intimate contact with the pupil through several months of instruction and containing estimates of the child's aptitudes and disabilities would certainly be of more value to new teachers to whom the students were sent for more advanced instruction than a list of grades of doubtful accuracy and validity. It is recognized that information based upon subjective tests is more difficult to acquire accurately than objective data based upon the child's oral or written productions. It is also recognized that standardization is more difficult with subjective data than with objective data, *but the problem is not one of relative difficulties, but of relative values.* Granted that the information acquired is as likely to be inaccurate as grades, which is doubtless true, it would still appear to be more important for new teachers to know mental qualities than objective grades based on varying standards of instruction.

None of the public-school records with which the authors are familiar provides any space whatever for observation relating to mental traits. Some of the printed record blanks contain space for "remarks," but no direction is given as to what kind of remarks is desired

and this part of the record is usually left blank. The scanty information that may have been obtained by the teacher, therefore, is totally lost. The most intrinsic knowledge relating to the child is dissipated through faulty records and failure to appreciate the significance of this type of data.

The inadequacy of the present system may be more fully appreciated by visualizing a typical schoolroom situation. Suppose that twenty pupils compose a class group. This group has been brought together as a result of having previously met certain standards of knowledge with reference to certain prescribed subject matter. The daily schedule comprises instruction in arithmetic, grammar, history, spelling, reading, and writing. In the course of time and experience the teacher observes the following: (1) Two children merely drag along, yet they do not appear unusually dull or stupid. (2) Four students show interest and ability in arithmetic and limited interest and ability in grammar and spelling. (3) Eight other pupils in the group show limited capacity to learn grammar and to correlate the facts of history. In other words, they complain that grammar and history are hard for them. (4) The remainder of the group make reasonable progress in all of the subjects and apparently reveal no conspicuous defects in any of them. With varying details and numbers this is a situation that confronts every teacher, but as we approach the deeper aspects of the problem we see that the difficulties of the situation vary widely and minutely between the members of the group. For example, between two pupils doing reasonably well in arithmetic one is more apt in mechanical work or processes of analysis, while the other is more apt in the thought-processes of stated problems. As we study the class group an unlimited number of questions deserving

consideration present themselves. For example: Is there any correlation between arithmetical analysis and grammatical analysis? Is it possible to carry over apparent aptitudes in one subject to another subject, especially where these processes are similar? These and many similar questions test the astuteness of the teacher in developing and determining talents and aptitudes of students. These are examples of many subtle questions that ordinary observation will not reveal. Their revelation requires special methods and trained observers. This points the way for the recognition of scientific educational diagnosis that may be used to supplement the observations of the discerning teacher. Much greater success will come to educational effort when we learn to make scientific observations by the use of intelligent methods.

CLASSIFICATION OF NATIVE ENDOWMENTS

This discussion implies a revelation of certain fundamental qualities of mind and heart. Education is based upon the recognition of native endowments. They may be grouped roughly as follows: (1) social endowments, (2) temperamental qualities, (3) mentality, (4) vital force, (5) aptitudes. These qualities not only differ widely in different individuals, but in intricate combinations they vitalize human life with forces of endless possibilities. The expression of these forces is known as human behavior, which is the means which the psychologist is now using to interpret the strength of mentality. No process of education or exertion can increase them beyond nature's allowance. Education is not creation. It is revelation and direction. President Wilson has written a little book that he calls *When a Man Comes to Himself*. He maintains that "a man comes to himself

when he has found the best that is in life, and has satisfied his heart with the highest achievements he is fit for. It is only then that he knows of what he is capable and what his heart demands."[1]

In another connection in the same volume he says that "men come to themselves by discovering their limitations no less than by discovering their deeper endowments and the mastery that will make them happy."[2] President Wilson takes the precaution to state that not all men come into full possession of nature's endowment, and he also declares that there is no fixed time in a man's life when he becomes aware of the full possession of these powers. He has presented here a remarkable revelation of the relation of nature to nurture[3] in mental development.

In passing it may be worth while to define the factors that compose human endowments.

1. *Social endowments* include those attributes that reflect the qualities of social action. They originate in the gregarious instincts,[4] and manifest themselves in many ways. Men differ widely in these talents. Some men by their personality attract and fascinate while others repel and disgust. Both sociality and anti-sociality are real qualities.

2. *Temperament* has been defined by Ladd as "any marked type of mental constitution and development which seems due to inherited characteristics of the bodily organism." Psychologists have classified temperament as sanguine, choleric, phlegmatic, and sentimental, with

[1] P. 11.

[2] P. 23.

[3] "Nurture" is used here to convey the idea that not only formal instruction, but all the experiences of life help to reveal to a man the extent of his talents as well as the limitations of his ability.

[4] See McDougall, *An Introduction to Social Psychology*, p. 84.

all possible combinations of these. It is generally considered that mental qualities are largely predetermined by physical qualities. Sex, age, and race are factors in temperament.[1] Outstanding attributes of feeling, will, or imagination control conduct and explain motives in relatively pure types. The physical characteristics have neutralized outstanding qualities in what is called the balanced temperament.

3. *Mentality* is the familiar phenomenon that determines responses to stimuli and results in reactions that we call behavior. Every teacher is familiar with the wide differences in the mental alertness of children. If we assume a uniformity between mental activity and the exercise of brain-function, the same differences exist. The amount of disposable energy in the brain at any time is far from being a constant quantity. The extremes are represented by the idiot on the one hand and the genius on the other, with endless gradations in mental responses between these extreme types. The teacher has no power to increase mentality, but, assuming a maximum mentality for each individual, it is the teacher's problem to invent devices and to use methods that will transform all the latent mental energy of the child into conscious potential energy. The stereotyped curriculum is the teacher's greatest handicap in dealing with this problem. There is little opportunity, under the prevailing system of instruction, to meet the requirements of mental deficiencies and to contribute to the mental needs of each member of a class group.

4. *Vital force* is the physiological factor that reacts upon all the mental qualities. Vitality is as valuable a quantity as mentality. Their interdependence is well understood. The degrees of vital energy range from

[1] See Dester and Garlick, *Psychology in the School Room*, pp. 432–345.

the listless anaemic on the one hand to the red-blooded, energized child on the other. Proper food, air, sunshine, and exercise may increase vitality to the limit of nature's allowance. But heredity plays an important part here, and, after all is done, marked differences will still exist that baffle educational effort.

5. *Aptitudes.* We may have those natural tendencies that give response to effort in one direction with greater ease than that manifested in another direction. Their recognition is the supreme task of the conscientious teacher. That special aptitudes exist is no longer a theoretical question. That they are capable of direction is equally a matter of common knowledge. The whole field of our statistical measurements in educational psychology has grown out of the recognition of this supreme educational factor.[1]

THE VOCATIONAL GUIDANCE OF YOUTH

The study of special aptitudes is a logical step in the program for vocational education. Interest in vocational education has greatly enlarged the scope of educational endeavor. This movement has compelled our school forces to appraise the social significance of vocational life and to consider the adaptability of children to particular careers. We must recognize the efforts at vocational guidance as the effects of the movement for vocational education.

The position of vocational counselor is a new vocation that is destined to increase in importance. Bloomfield declares that "until society faces the question of the life careers of its youths, the present vocational anarchy will continue to beset the young work seekers."[2] This

[1] See Bronner, *The Psychology of Special Abilities and Disabilities* (1917); Wells. *Mental Adjustments* (1917); and Hollingsworth, *Vocational Psychology* (1916).

[2] *The Vocational Guidance of Youth.*

declaration must be obvious to every thoughtful student of educational problems. But before substantial progress can be made, the entire school system must give recognition to the importance of the task and the validity of the undertaking. This will mean that the curricula must be formulated on a new basis. The old question of what knowledge is of most worth must have a new meaning and it must be answered in the light of new conditions. This is a radical departure in educational practice, and its adoption would greatly modify the established curricula in present-day schools.

We would not undertake to close this discussion without a more emphatic intimation of the contribution that the schools are now making to the recognition of aptitudes and their conscious direction. Here and there a school system has begun in a concrete way to formulate means and to adopt devices that will reveal to teachers and school officials the mental qualities of children. An interesting example of such a school system is that of Pomona, California. Superintendent G. Vernon Bennett has worked out a rather promising plan of determining aptitudes and abilities. This experiment began in 1914 by the appointment of a member of the high-school faculty as vocational adviser, the first position of the kind in a high school, perhaps, in this country. Mr. L. W. Bartlett, who was appointed to this position, outlines the aims of his work as follows:

1. To stimulate the vocation-motive as a directive force throughout the entire school life of the pupil.

2. To give the pupil a grasp of the field of vocations, and the social and economic aspect of each.

3. To encourage the pupil to discover his powers and possibilities with a view to investing them.

4. To help him in the selection of a vocation, and in his choice of subjects in preparation for that vocation.

5. To assist him in making the start in life.

The complete plan is outlined in a pamphlet entitled *Vocational Guidance in Pomona City Schools*. The plan comprehends a study of children from the kindergarten through the high school. The kindergarten supervisor explains:

> In the kindergartens, vocational guidance begins with the discovery of a child's attitude toward any activity or occupation. Free conversations reveal his interests, how far he understands what he sees and hears, and enable the kindergartner to explain or correct impressions . . . . . Interest in and appreciation of trade life show in conversation, imitations of trade activities, and real but simple work with the tools and materials of that trade. The group visits the carpenter, inspects his shop, describes his work and materials, imitates his movements, and then builds a shop, a house, models tools, and plays carpenter.

The same idea with varying details is carried through the primary, intermediate, and high-school grades. The mental reactions of children to such activities as school gardens, manual training, geography, and history are observed in the primary grades, and in the intermediate school recognition is given to the marked mental and physical changes that the pupil undergoes and his restless and sensitive reactions resulting from these changes. A wider choice of manual activity is provided, including sewing and cooking, art, music, bookkeeping, woodwork, printing, general science, and mechanical drawing.

In the transition from the intermediate to the high school a very important element is added in the Pomona schools. A class in vocational information and guidance is organized. The aim of this class is to furnish the pupil information about the requirements and possibilities of the various vocations, including their social and civic relations and the relative advantages and disadvantages of each. The suggested readings of the high school emphasize particular subjects that qualify

for a vocation and are largely based upon many of the activities that begin in the elementary school.

Through later school years the children are studied from the standpoint of their home environment and the interests that they reveal outside of school work. They visit various industries under the direction of the teacher, and the interest manifested by each pupil is carefully noted. Teachers are urged to cultivate a knowledge of their pupils through conversation and playground activities.

The card system is used for record purposes. Several different kinds of record cards are used. One card relates to the child's home environment, including the use of his spare time, his outside reading, and the special interests and aptitudes revealed in the informal relations of the home. Another card contains a record of qualities observed, such as attentive or inattentive, courteous or discourteous, initiative or passive, kind or cruel, persevering or weak-willed, etc. Another card is headed "types" and calls for records with reference to elements of leadership, originality, and other type activities.

While the experiment referred to is the most advanced and definite one that has been made in this direction, it should not be overlooked that in a less formal way the movement is recognized by many other schools. The elaborate system of grading by which the child is promoted or demoted, advanced or retarded, dropped or passed, is a means of testing the abilities or disabilities, interest or indifference, mental alertness or dullness. This process of selection, identification, and elimination goes on ceaselessly from the kindergarten to the university, but there are three obvious defects in the present plan that seem to require discussion: (1) In the first place, the system has been devised for another purpose,

and the benefits and information supplied are merely incidental and useless. (2) In the second place, the information is not detailed enough to be of the best use as a guide to vocational effort. (3) In the third place, the aptitudes revealed are too limited in number to serve as a basis of study of important correlations. For example: What relation exists between the early success in elementary subjects and the later success in handling more advanced subjects? Or what relation exists between high-school averages and the averages in the various years of the college? Or what is the relation between honors received in college and recognition in later life in such volumes as *Who's Who?* Or what is the relation between school standing and salary-earning in later life?

CONCLUSION

The tendencies in education to evaluate abilities and disabilities of children offer great promise in education. Psychology at last is to find application in the revelation of behavior. Individual responses are to have recognized meaning. They are to be measured and weighed in the light of the stimuli that produced them. When sufficient evidence is accumulated to justify a reasonable conclusion, a life interest will be established that will give to the individual reasonable expectation of efficient service and satisfactory employment. *We must recognize that education has not done enough for any pupil if it finally fails to reveal to him his particular capacities and aptitudes.* It is none the less the duty of the school to develop his social endowments, temperament, mentality, and vitality to their full capacities. It is not unreasonable for the pupil at the end of his school career to demand a charted record of his abilities and disabilities as revealed through his continuous school career. Certainly such a

chart, after due allowance is made for inaccuracy of judgment, would be more valuable than a transcript of inaccurate grades and a Latin diploma that he cannot read.

But society has a higher right than the individual to demand this information for each pupil. It is to the interest of society that men and women be as well adapted to life careers as possible and, consequently, that as few as possible be ill-adapted to vocational activities. Again, the accumulated results of the intensive observations of individuals give us important information relating to groups. Individual diagnosis of mentality offers untold possibilities for the sociologist.

We may reasonably expect increased interest in the aspect of education under discussion. An important beginning has already been made. Many studies will be made and many devices will be invented looking to a more definite formulation of a system for accurately determining the latent possibilities of individual life. What is now only an ill-defined program will in time become an important applied science. The achievements of the early years of this century in this important aspect of education give the assurance of the fulfillment of a prophecy made by an earnest inquirer in this particular field: "The nineteenth century witnessed an extraordinary increase in our knowledge of the material world, and in our power to make it subservient to our ends: the twentieth century will probably witness a corresponding increase in our knowledge of human nature, and in our power to use it for our welfare."

Topics for Report and Investigation

1. Modification of standard curriculum necessary to give conscious direction to study of abilities and disabilities.

2. Information cards—data and form—for term reports on abilities and disabilities.

3. Methods of checking up the abilities and disabilities of the abnormal child. The subnormal child.

4. Element of variability likely to appear in the transition (*a*) from the first to the second grade; (*b*) from the first year to the last year of the high school; (*c*) from the high school to the college.

5. Classification of abilities on the basis of vocational requirements.

Further Readings

Bloomfield, M. *The Vocational Guidance of Youth.* Houghton Mifflin Co.

Brewster, Edwin Tenney. *Vocational Guidance for the Professions.* Rand McNally & Co.

Bronner, Augusta F. *The Psychology of Special Abilities and Disabilities.* Little, Brour & Co.

Dickinson, Marguerite Stockman. *Vocational Training for Girls* Rand McNally & Co.

Hollingsworth, H. L. *Vocational Psychology.* D. Appleton & Co.

Hollingsworth and Poffenberger, *Applied Psychology.* D. Appleton & Co.

Jastrow, J. *Character and Temperament.* D. Appleton & Co.

Puffer, J. Adams. *Vocational Guidance—The Teacher as a Counselor.* Rand McNally & Co.

Schneider, H. "Selecting Young Men for Particular Jobs," *Bulletin 7,* National Association of Corporation Schools.

Thorndike, E. L. *Educational Psychology,* Vol. III, Part 2; also *Mental and Social Measurements.*

Wells, F. L. *Mental Adjustments.* D. Appleton & Co.

Whitley, M. T. *Tests for Individual Differences.* Science Press.

CHAPTER X

EDUCATION AND PRAGMATISM

PRAGMATISM has been brought to the aid of most of the philosophies of life. The affiliations of pragmatism have been an interesting theme for many of the philosophers of recent times. Pragmatism has been brought to the defense of religion.[1] Its relation to, and influence on, rationalism and idealism have been ably discussed by Professor Caldwell.[2] Most of the other formulated philosophical concepts have been associated in recent years with pragmatism. This is not surprising in view of the claims of pragmatism. It has promised much as a means of removing "speculative remoteness" and uncertain implications from many questions of deep human concern. In the light of its promises and the possibilities of its method, it is rather surprising that pragmatism has not been associated with education and the pragmatic test applied to educational theory.

Two questions arise at once with reference to the application of pragmatism to educational policies: (1) Has education a pragmatic basis? (2) Has education been *consciously* influenced by the pragmatic movement in philosophy? Before we answer the first question we must refer briefly to the meaning of pragmatism as presented by its leading advocates in recent philosophical literature.

Pragmatism comprehends both (1) a method and (2) a

[1] James, *The Varieties of Religious Experience;* Pratt, *What Is Pragmatism?* chapter v, "Pragmatism and Religion."

[2] Caldwell, *Pragmatism and Idealism.*

genetic theory of truth. "Pragmatism," according to Professor Dewey, "is a temper of mind, an attitude; it is also a theory of the nature of ideas and truth; and finally it is a theory about reality."[1] James is careful to keep the idea of *method* and the idea of the *theory of knowledge* distinct in presenting his conception of pragmatism. He says: "The pragmatic method is primarily a method of settling metaphysical disputes that otherwise might be interminable."[2] James follows this statement with the following suggestion with reference to its application to a practical problem: "The pragmatic method in such cases is to try to interpret each notion by tracing its *respective practical consequences.* What difference would it *practically* make to anyone if this notion rather than that notion were true?"[3] The advocates lay great stress on the "attitude of orientation," which James explains as "*the attitude of looking away from first things, principles, categories, supposed necessities, and looking toward last things, fruits, consequences, facts.*"[4] This statement is strictly in accord with the ideas of Mr. C. S. Pierce, who was the first to use the word "pragmatism." He expresses the idea in these words: "Consider what effects which might conceivably have practical bearings we consider the object of our conception to have. Then our conception of these effects is the whole of our conception of the objects."[5]

The pragmatic philosophers will lay emphasis on two words—"practical" and "consequences." Popini is quoted by Pratt as saying that the "meaning of theories consists uniquely in the *consequences* which those who

[1] "What Does Pragmatism Mean by Practical?" *Jour. of Phil.*, v, 85.
[2] William James, *Pragmatism*, p. 45.
[3] William James, *Pragmatism*, p. 45.
[4] *Ibid.*, p. 54.
[5] "How to Make Our Ideas Clear," *Popular Science Monthly*, XII, 283.

believe them true may expect from them."[1] Professor Schiller elaborates this idea as follows: "To say that a truth has consequences and that what has been done is meaningless, means that it has a bearing upon some human interest. 'Its consequences' must be consequences *to* some one *for* some purpose. If it is clearly grasped that the 'truth' with which we are concerned is truth *for man* and that the 'consequences' are human too, it is really superfluous to add either that the consequences must be *practical* or that they must be good."[2] James did not regard practical as "superfluous" but as essential in the application of the pragmatic method, but his idea of the meaning of the word "practical" is more comprehensive than some who have criticized this philosophy have realized. He makes it clear that the word is not restricted to a merely utilitarian meaning. He reminds us that the word is derived from the Greek word that means "action" and from which we derive our words "practice" and "practical."[3] In another connection[4] he explains that *practical* means to him *particular* or *concrete*. Schiller attempts to prevent a too narrow application of the word by reminding us that "all consequences are practical sooner or later." Critics of pragmatic philosophy have attacked this statement on the ground that if Schiller is correct the word "practical" loses its significance when it is used to define pragmatism. But what Schiller had in mind was a recognition of the relation of theory to practice. To the pragmatic philosophers hypothesis, theories, and laws are mere formulas expressing relative truth or truths in generalizations that more or less

[1] *What Is Pragmatism?* p. 22.
[2] *Studies in Humanism*, p. 5.
[3] *Pragmatism*, p. 46.
[4] *Journal of Philosophy*, I, 674.

accurately predict evidences which may or will verify them. It is in this sense that Schiller regards consequences as "practical sooner or later."

Before passing to the specific answers to the questions raised it may be well to call attention to another term that has been used both as the forerunner of the term pragmatism and by recent writers as synonymous with pragmatism, i. e., the word "humanism." This word was first used by Professor Schiller, who may be regarded as the father of the modern pragmatic movement in philosophy. He defines the term as "the perception that the philosophic problem conceives human beings striving to comprehend a world of human experience by the resources of human minds."[1] He emphasizes this point of view in philosophy by declaring that "man's complete satisfaction shall be the conclusion philosophy must aim at."[2] He explains that by "human" is meant "human experience." "Pragmatism and humanism," says Driscoll, "are terms designating the same thing, e. g., human experience, considered under different viewpoints. Pragmatism sets forth a method of thought; humanism accepts this method, but lays special stress on its content."[3] Schiller recognizes the content element in pragmatic philosophy, but he contends that humanism is more comprehensive than pragmatism. "Pragmatism," he says, "will see a special application of humanism to the theory of knowledge," which means that humanism implies "the expansion of pragmatism." Humanism therefore, involves "a method applicable universally to ethics, to æsthetics, to metaphysics, and to theology, to every concern of man, as well as to the theory of

[1] *Ibid.* p.
[2] *Ibid.*, p. 13.
[3] *Pragmatism and the Problem of the Idea.*

knowledge."[1] Schiller's distinctions, however, fade away in the larger interpretations given to pragmatic philosophy by James, Dewey, and others. But the use of both terms is significant in the development of this philosophy, for humanism has been used to emphasize the content, and pragmatism the method. This subject matter has been given the definite content of what is human as revealed in experience. The method has been applied to the examination of this experience by looking to the "practical consequences" resulting from a practical experience or group of experiences.

Reverting to the questions raised with reference to the pragmatic basis of education, it would appear that an affirmative answer must be given to the first question. Education as conceived and directed in this country has a pragmatic philosophy behind it. Perhaps a negative answer must be given as to the *conscious* influence of pragmatic philosophy upon education, but this does not indicate that educational theories and methods have not, nevertheless, been definitely influenced by pragmatic philosophy. An attempt will be made to support these answers by tracing the application of pragmatism through American ideals as reflected in educational theory and practice.

AMERICANISM AND PRAGMATISM

Before passing to the influence of pragmatism on education it would be worth while to observe that pragmatic philosophy has flourished in the United States. Its influence has been less noticeable even in England, where it first received modern consideration. Attention has been called to Dewey's definition of pragmatism as "a temper of mind, an attitude." There is much in

[1] *Studies in Humanism*, p. 16.

the attitude of mind of the American people that makes pragmatism an attractive philosophy. Americanism and pragmatism are interrelated in that the spiritualizing power of the nation has been given expression by the motive and method of this philosophy.

Americanism is universally associated with certain outstanding qualities that reflect a pragmatic philosophy. Contemporaneous American life manifests an abiding faith in practicality and efficiency. These ideals are expressed in belief in work—not for its own sake, but for "the practical consequences" that result from it. Americanism is universally associated with "action" and the self-directive efforts of the individual. This has given expression in various ways to exaggeration, radicalism, individualism, and to an unwarranted optimism,[1] but underlying all these is an abiding faith in the value of experience and a belief in a creed or philosophy of life that really "works" when applied to practical situations. It would be almost possible to substitute the word pragmatism for Americanism in David Jayne Hill's explanation of what Americanism is, in his book *Americanism: What It Is:* "It is positive, constructive. It starts with the idea that the human individual has an intrinsic value. It holds that he has an inherent right to bring to fruition all his native powers and to enjoy the fruits of his efforts. His real value lies not in what he has, but in what he is and may become; and he may become anything his capacities and his achievements may enable him to be."[2]

This conception of Americanism is the supreme justification for educational opportunity for all children at public expense, and at the same time it is humanistic

[1] See Bliss Perry: *The American Mind.*

[2] *Americanism: What It Is,* Preface, p. 9.

in content and pragmatic in method, or either or both of these if we conceive of them as synonymous and expressing the idea of "intrinsic value," "inherent right," and a method of giving these qualities ample opportunity for expression.

INFLUENCE ON EDUCATION

Americanism as it is understood has been and is being largely reflected in educational theory and practice. Publicly supported institutions seek justification on these grounds. Criticism is constantly being directed at our educational system because it fails in this or that particular to reflect some attribute of Americanism. These criticisms are constantly producing modifications and redirections in our educational practices. This in itself is pragmatic, for it is a frank recognition of *relativism.* Compromises are constantly being made in educational effort in the interests of social demands. The denial of the absolute and the recognition of the relative value, therefore, is a fundamental application of pragmatism to educational policy.

Pragmatic philosophy was, as we would naturally expect, first reflected in American university life. We are all familiar with the changes in methods of instruction. The newer emphasis on the natural and social sciences, the laboratory methods of instruction, and the adjustment of educational material to means and ends have largely developed within a generation. We are all familiar with the preference for the concrete,[1] rather than the abstract, the abhorrence of mere book-learning, intolerance for the doctrinaire, and the optimism reflected in our faith in Americanism. Every college and university

[1] "The whole originality of pragmatism," says James, "the whole point in it, is its use of the concrete way of seeing. It begins with concreteness and returns and ends with it."

in the land has been influenced by the change in attitude toward these factors. The multiplication of courses in natural and social sciences and the relative number of graduate students that elect these courses reflect the influence of pragmatic interest and attitudes of mind.

The elective system also reflects pragmatism in two ways: (1) The system looks to the practical consequences of instruction by attempting to adapt it to individual needs. (2) The elective system concentrates attention on the relative merits of methods of handling subject matter to the end that even the most theoretical teacher of the most impractical subject is compelled to look to "practical consequences" or he will soon find his classroom deserted and his courses ignored. We find the teachers of philosophy, mathematics, and the classics justifying their courses on utilitarian grounds, and in their classrooms attention is directed to a philosophical basis for political theory, to the application of pure mathematics to applied subjects; and Greek and Latin are taught as contributing factors to a clear knowledge of our own tongue rather than as a means of better acquiring acquaintanceship with a foreign culture.

The obvious truth of this assertion is easy to verify by reference to the outline of graduate courses offered by the departments of abstract science in our college and university catalogs. The tendency in the literature of philosophy now is to discuss such topics as "A Recovery of Philosophy," "Reformation of Logic," "Intelligence and Mathematics," and "Value and Existence."[1] We are told that "even mathematics, long the pattern of absolute knowledge, has not escaped the stigma of relativity. Euclidean geometry is reduced to a useful

[1] See Dewey and Others, *Creative Intelligence.*

interpretation of the data of experience; it is not theoretically the only one. Its superior validity is dependent upon its use when applied to the physical world. Even mathematics, therefore, lend themselves to the philosophic inference drawn by Henri Bergson and others, that all conceptual systems of the human mind have a merely conditional truth, depending on the circumstances of their applications."[1]

That the reform of logic along with mathematics has been brought about by pragmatic philosphy is the best evidence of its profound influence on the subject matter taught in our schools and colleges. The publication in 1890 of James's *Principles of Psychology* marked a new era in the subject matter of that science. Since that date the new tendency in psychology has profoundly influenced all the aspects of educational endeavor. An adequate appreciation of the influence of pragmatism on education would require, therefore, a consideration of the modifications in educational practices resulting from the influence of modern philosophy. It is most natural first to think of vocational education as the most obvious product of the pragmatic influence in American education. The whole movement of industrial education—which is a broader term than vocational education—gained headway under the direction of pragmatic philosophers. The publication of John Dewey's *The School and Society* in 1900 was an event of importance in our educational development. He tells us in this volume that "we must conceive of work with wood and material, of weaving, sewing, and cooking as methods of living, not as distinct studies."[2] This educational conception, although a radical utterance when expressed, becomes a commonplace

[1] D. L. Murray, *Pragmatism*, p. 5.
[2] *School and Society*, p. 27.

and would hardly be disputed by any reputable educator. It was but a step from industrial education in general to vocational education in its more or less specific applications. It is an attempt completely to socialize education in the interest of both society and the individual. The justification for vocational education at public expense finds expression in pragmatic philosophy. When we are challenged to justify the increasing forces employed in education and the multiplication of courses necessary to meet the demands of vocational education, we apply the pragmatic test. What difference would it *practically* make to anyone if disciplinary education instead of vocational education should prevail? This is a pragmatic question and we apply to it the statement of James: "You must bring out of each word its practical value, set it at work within the stream of your experience." If this is an insufficient test, we apply finally the test of tracing the notion (vocational education) to its "practical consequences." In our civilization this not only has been a satisfactory answer to the educator, but it has been the means of opening the nation's treasury and making available enormous funds with which to carry on these processes.

The vocational guidance movement which has grown out of the vocational education movement developed out of the pragmatic consciousness. Vocational guidance is distinctly a movement "looking toward last things, fruits, consequences, facts." These are only illustrations of the influence of pragmatic philosophy upon tendencies in modern education. The student of educational problems can easily catalog many other educational movements that can with equal assurance be traced to the influence of this philosophy on American life. It is not so important to test all the elements of this situation as it is to recognize

the influence of pragmatism itself. The most valuable answer that can come from applying the pragmatic test to educational theory is in the double assurance that such a method of philosophy applies the functioning test to theory and gives a formula for evaluating proposed innovations in education. The progressive teacher is constantly confronted with the decision of accepting an educational fad for an educational fact. It is always dangerous to dogmatize, and this is especially true in respect to problems of education. Pragmatism offers a means by which we can test out relative values by tracing them to their consequences. It therefore becomes an important guide to safe action in evaluating the proposals of educational changes.

CONCLUSION

A precaution seems to be necessary, however, in the application of pragmatism to educational practice. Relative emphasis, as well as relative value, needs to receive consideration in the application of pragmatic philosophy to education. Professor William Caldwell of McGill University voices this precaution in the following words:

> Pragmatism is inclined in some ways to make too much of people's rights and interests, and too little of their duties and privileges and of their real needs and their fundamental, human instincts. It is in the understanding alone of these latter things that true wisdom and true satisfaction are to be found. And, like the American demand for pleasure and for a good time generally, pragmatism is in many respects too much a mere philosophy of "postulations" and "demands," too much a mere formulation of the eager and impetuous demands of the emancipated man and woman of the times—as forgetful as they of many of the deeper facts of life and of the economy of our human civilization. In demanding that the "consequences of all pursuits" (even those of study and philosophy) shall be "satisfying" and that philosophy shall satisfy our active

nature, it forgets the sense of disillusionment that comes to all rash and mistaken effort.[1]

This precaution seems to be particularly pertinent at the present time. Educational practice has gone too far in some directions in attempting to comply with superficial demands of the times. It has caused some to challenge the honesty of our educational convictions and the validity of our methods.

A few years ago we grew impatient and were inclined to answer hastily the child who asked us what good would come to him from the study of this or that subject. Gradually we have come to understand that this question must not only be answered for the child, but that we must answer it for ourselves if we are to teach the subject effectively. In the economy of social effort for all the future, educational organizations, educational questions, educational methods, as well as the content of courses of study in all the grades and classes of schools, must seek justification on the basis of the validity of the consequences that they produce. The time has come for us to recognize the influence of pragmatic philosophy on all the means, influences, and agencies in education.

Topics for Report and Investigation

1. A revaluation of the subject matter of the high-school course of study in the light of pragmatic philosophy.
2. Pedagogical methods and the pragmatic method.
3. The psychological implications of pragmatism.
4. The meaning of "creative intelligence."
5. An outline of pragmatic elements in modern education.

Further Readings

Caldwell, William. *Pragmatism and Idealism* (1913); Macmillan.
Dewey, John. *The Influence of Darwinism, and Other Essays* (1910); Henry Holt & Co.

[1] *Pragmatism and Idealism*, p. 192.

Dewey, John, and Others. *Studies in Logical Theory* (1903); University of Chicago Press. *Creative Intelligence* (1917); Henry Holt & Co.

James, William. *Pragmatism, a New Name for Some Old Ways of Thinking* (1907); *A Pluralistic Universe* (1909); *The Meaning of Truth* (1909); *Some Problems of Philosophy* (1911); *Radical Empiricism* (1912); *The Will to Believe, and Other Essays in Popular Philosophy* (1897); *The Varieties of Religious Experience* (1902); Longmans, Green, & Co.

Moore, A. W. *Pragmatism and Its Critics* (1911).

Murray, D. L. *Pragmatism*; Schiller.

Pratt, James B. *What Is Pragmatism?* (1907); Macmillan.

CHAPTER XI

FREEDOM AND LAW

ONE of the chief impediments to proper progress in educational principles has been our misconception of the relation between freedom and law. We have not been willing to give the child's individuality free play because we have feared that such freedom would result in license. We have been dominated so long by the idea that the teacher is the chief factor in the school, the absolute monarch whose word is law, that we have found little place for the child's freedom. In fact, in the average school, the child has little to do with either the work or the discipline of the school. His business is to do the work assigned him by the teacher, obey her orders, and ask no questions. He has been taught that his teacher is his master, his elders his superiors, and that he is a perverted, totally depraved creature who has no rights until he becomes a man. While we have had as our chief aim in the school the development of the child into a useful citizen, we have conducted our work in such a manner as to make him a slave rather than a self-active, free man. We have acted as though we thought that we could best train him for citizenship in a free republic by taking away from him all freedom during his training. We have forgotten that the ability to use freedom aright cannot be learned from books; it can be learned only in the practical school of experience. Here we have another example of the weakness of our educational system due to the overemphasis of books as means of education. It has caused us to overlook the fact that the school organism is the best possible means of training the boys and girls

in the principles of liberty and of giving them a proper attitude toward law. We have thought of the school merely as a means of coercing the child into doing what we want him to do and have not thought of it as a means of developing in him the ability to use freedom aright.

Governor Whitman in his inaugural address to the New York legislature said that the greatest menace to this republic is the prevalent disregard for law, and this is just what we should expect when the people are trained under a system of education based on force. Such a system inculcates the wrong attitude in the pupil's mind toward the law, and when he leaves the school he of course takes this attitude with him and does not have the right attitude toward the law on the outside of the school. If pupils do not learn to respect law when in school, they will not respect it when they leave school. In the schools they become accustomed to looking upon it as hostile to their best interests; if they obey it, it is not because they love the law, but because they fear the consequences of disobedience. If grown men and women have any respect for the law of the land, it is not because they have gained that respect in the schools. Such an attitude was inculcated, more than likely, by law-abiding parents.

The fact that the school organization is based on force leads not only to the lack of self-control with respect to law, but to other vices which are sapping away our vitality as a nation. We may cry out against the high cost of living from now until doomsday, but it will do no good unless we exercise more self-control and self-restraint in our methods of living. As some one has said, it is not the high cost of living that is troubling us; but it is the cost of high living. We are living high because the other fellow does. He has n't the self-control

to restrain his desire for pleasure and display, and we have n't the self-control necessary to keep from aping him.

TRAINING FOR FREEDOM

We have made some progress in freedom in the realm of government, but this does not affect the individual until the battle with him is either lost or won. We have been clamoring for more liberty without seeming to realize that it is extremely important that we first know how to use such liberty aright, and, as a result, we have paid extremely dearly for it in most instances. We have failed to use the schools as we should have done in developing the pupil's self-control. It is very important that, if we are to train citizens for a republic, we regard the school as a miniature republic, where, under the direction of the teacher, the child learns not to abuse his liberties and attains a proper attitude, not only toward the school law, but toward law in general. While we should have used the school organization to develop in the child the habit of self-control, we have used it, as a matter of fact, to crush his individuality, and, as a result, when he goes out into the world where there is no teacher to control him, not having the proper attitude toward the law, he abuses his rights.

Our attitude toward the child in his training is somewhat similar to the attitude of some of our forefathers toward the common man of one hundred and fifty years ago. They believed that anarchy would result if he were given any voice in his government, and for this reason they kept the rights of government out of his hands as long as possible. Monarchical Europe has looked with a good deal of skepticism on the trial of democracy in the New World. It is only within the

past few years that Europe has been willing to confess that it has been even a partial success. Our brothers on that side of the ocean have put themselves in the attitude of the overanxious mother who was unwilling that her son should go near the water until he had first learned to swim. How can men use freedom until they have first learned to use it in the school of experience? It must be handed to them a little at a time until they are able to enjoy it completely. The common man who came to America could not have used aright the liberties which were granted him in this country had he not learned to use them in his own local self-government in the old country. When boys and girls become men and women, they cannot be expected to use aright the liberties which are then thrust upon them unless they first learn to use them in the process of their education.

SOURCE OF LAW

In order to develop in the pupil the proper attitude toward law and to create conditions conducive to his growth in self-control, we must get him to understand the nature and source of law. The pupil is not going to respect the law so long as he believes that it emanates from the teacher. He is not going to be interested in his school work so long as the inspiration comes from without, and he is not going to thrive in the school atmosphere where the teacher's will is law and no place is given for the exercise of his own individuality.

The pupil must understand that the real law of the school is inherent in the organism, and that the law the teacher promulgates is real law because it corresponds with this inherent law. The very nature and purposes of the organism determine the law. This is true of a

lodge, a church, and of a state, just as it is of a school. The botanist does not make the laws of plant life, nor does the physician make the laws of the human body. The statesman does not make, but reveals, the laws of the state. He is the best botanist who has the clearest insight into the laws of plant life and can best reveal them. He is the best statesman who best understands the purposes and nature of the political organization called a state and gives the clearest enunciation of them. If the statesman were to promulgate a statute that would not help the state to perform its proper function, that statute would not be a law. The teacher's business is not to make the laws of the school, but to reveal them, and he is the best teacher who is most in sympathy with the nature and purposes of the school and can reveal its laws with accuracy.

The first step in bringing about the proper conditions in the school and in securing the proper attitude of the pupil toward law is to get him to understand thoroughly that its laws are not teacher-made, but that they are what they are because the school is what it is. This is the best place in the world for the teacher to take the pupil into her confidence and to have a heart-to-heart talk with him about the nature of the school and its laws. She should make it clear to him that she is not a dictator, a master whose word is law, but that she is a friend whose business it is to reveal the law of the school and that she can do this better than the pupil because she knows better than he the nature of the school organism. The next step is to get him to see that he is not the only one who must obey the law, but that the teacher, the superintendent, the school board, and the patron are as much subject to the law of the school as the humblest pupil. The real law of school life is violated by any

one of these when he does anything that impairs or tends to impair, or when he fails to do anything that increases, the usefulness of the school. All these are bound as much as the pupil by the following obligation: I will be guilty of no line of conduct unless all may be guilty of the same without impairing or tending to impair the usefulness of the school. This includes the law of the school, and the governor of the state has no more right to violate it than has the smallest boy in the school.

If we can get the pupil to understand this fundamental law, he will have a different attitude toward the school and its work. If we can get him to understand that the highest function of the school is to bring about his normal growth and development, the problem of school discipline will have been solved. Our trouble in the past has been due to our dealing with the child as though the origin or nature of the school regulation were no concern of his; his business was to obey and ask no questions, and it is our opinion that he has conducted himself admirably under the circumstances. The child in many instances rebels against the law of the school because he feels that it is imposed by the arbitrary will of another without regard to his welfare.

TRUE LAW IN HARMONY WITH CHILD NATURE

The true laws of the school are in harmony with child nature, and the ideal school organism is such as will bring about the harmonious development of all the child's faculties. If the school does not take into consideration the child's instincts and present needs, it is not what it ought to be, nor is it founded on the true laws of school life. If it does not offer a suitable atmosphere for the normal growth of the child in every phase of its life, it is not a proper school for him. There is no better evidence

that there is something fundamentally wrong with the schools as they are organized at present than the fact that they do not bring about the harmonious development of all the child's faculties and do not secure his co-operation in their work. They do not lead the child, but drive him. The average boy would not attend school if his wishes were consulted. There are many things about the school that do not appeal to his nature. He feels that he is not in his normal element. He is cramped by the presence of the teacher, whom he regards, not as a friend and helper, but as a master whom he must serve and whose will he must obey. If the school were organized properly, he would like to attend, for it would appeal to him as no other place in the world. There is something fundamentally wrong with the school which the pupil does not like to attend, and the first thing necessary is the arrangement of the work of the school in harmony with his present instincts and needs. The normal child is not predisposed to disobey the real laws of the school, as is commonly believed. He wants to obey and does obey implicitly for a year or two until he finds that this obedience is not in harmony with his best interests. When he begins to realize that he is not the chief factor, but that the teacher overshadows him, he rebels, because he likes to have his worthiness recognized. He likes to be the central figure wherever he is, if he is a normal child, and he can be handled most easily by being made such.

The fact that pupils regard it as a breach of honor to "tell on" one another is evidence that they have an abnormal conception of the school and its relation to them. In an absolute monarchy, where the government is carried on for the benefit of the ruler, the citizen cannot be blamed for shielding his neighbor from the penalty of

the law and thus protecting him from a common enemy. But in a democratic country, where the government derives its powers from the consent of the governed and where the ruler as well as the ruled must obey the law of the land, it is to the interest of all that the laws be enforced. If the teacher's strong arm is the source of authority in school, and if all laws emanate from her, the school is not a democracy, but a monarchy, and we should expect the pupils to conduct themselves as do the subjects of a monarchy, and band themselves together to oppose the ruler. He is on one side, they are on the other, and it would be treason to give any information that would give an enemy any advantage over a friend. Such conditions would suit very well in a school where the aim was to train subjects for an autocracy, but they are altogether out of place where the end is to train them for citizenship in a free republic.

However, when the law emanates from the school organism founded on the best interests of the pupil, the violator will be regarded as a common enemy. He will no more be countenanced by the law-abiding students than a highwayman is countenanced by the law-abiding citizens of a republic, where all recognize that the laws of the land are in harmony with their highest good. If conditions were right and the pupils were taught to understand their true relation to the school law, they would feel in duty bound to report every infraction of that law, for such an infraction would be, not against the teacher, but against the school and their own best interests.

OBEDIENCE TO LAW BASIS FOR FREEDOM

This conception of the law offers the only basis for freedom. When the school is organized in harmony with

the child's instincts and brings about his complete development, the pupil will be free, but he will be free, not in spite of, but through, the law. He will be free, not by violating the law, but by obeying the "perfect law of liberty." Most people have a wrong conception of law and believe that its purpose is to restrain. But the real purpose of the law is to direct us to the attainment of the greatest good. If the draymen, cab drivers, and automobilists in Chicago did not obey the city's regulations, soon all traffic on the streets would be impossible. These regulations may seem in certain instances to interfere with the liberty of some certain cab driver, but in the end they bring about not only his good, but also the greatest good of all. The laws of the school offer such conditions as will bring about the pupil's best development, and there can be no true development without obedience to these laws. When the sacred writer said, "We are no longer under the law, but under grace," he meant that we are no longer under the old law; but that we had substituted the will of God for law, and that now that will is law to us. It is not law in the sense that it tells us that we shall or shall not do, but it works with our wills and leads us to all truth—the truth that makes us free. Thus freedom does not come apart from the law, but through the law—the perfect law that is not man-made, but that is inherent in the nature of the organism, whether that organism be a school, a state, or the kingdom of God. Knowing the truth about this organism is the only way to freedom, hence not without reason the Great Teacher could say, "Ye shall know the truth, and the truth shall make you free." Man is free only when he acts in harmony with truth, and he cannot act in harmony with truth without knowing the truth. The man or woman, or the boy or girl, who

thinks he is free when following the dictates of his own whims is the most mistaken person in the world. We are all slaves to a thousand conditions we meet almost every day, because we do not know the truth about these conditions. We are slaves to physical conditions because we do not know the truth regarding these conditions that would enable us to master them. We reason like children because the truth is unknown to us. We do not know the facts. In the spiritual world there are a thousand unseen forces that have the complete mastery of us because we do not understand them. We are tossed about by a thousand false fears and superstitions because we do not understand.

It is the teacher's business to reveal to the pupil the perfect law of the school and help him to see that because he obeys it the greatest good will come to him. Not only this; she must offer such conditions that it will be easy for him to obey the law, for it is by obeying that he will learn to obey. It should be the aim to bring about such conditions as will make it most natural for him to be obedient, hence the school must be organized in harmony with his child nature and present needs. The laws should be so much in harmony with his normal growth that he will naturally be impelled to obey, not only the letter, but the spirit, for it is only the willing obedience that develops the habit of obedience. The habit of obedience should be formed before the pupil leaves school so that when he comes into the conditions on the outside it will be easy for him to obey the laws that there obtain and his freedom may be assured. The pupil should be so well acquainted with the laws of his growth and school life that his obedience to them will become natural; all restrictions should be removed from him as the habit of obedience is formed.

SCHOOL SHOULD INCULCATE HABIT OF OBEDIENCE

One of the greatest weaknesses of the present school system is that it fails to inculcate in the pupil this habit of obedience. Being founded, for the most part, on force, it seldom gets more than external obedience, and for this reason the habit of obedience is not formed. When the pupil leaves school, he does not know how to obey. He does not have the proper respect for law. The school may not be wholly to blame for this disrespect for the law, but its very nature encourages it. We have founded the school on force instead of on love and regard for the pupil's welfare as we should have done, and, as a result, we have not developed in our pupils the habit of obedience. Divine law is perfect because it is based on love, and the school law will be perfect when it is based on love. The teacher should never substitute her will for the child's will. Whenever it becomes necessary for her to run counter to the child's will, she should make it clear to him that it is because his will is out of harmony with his own supreme good. To do this, she must not only understand the nature of the school and its laws, but she must have in her heart love for the child and manifest it in her attitude toward him. It is for this reason that coercion should be resorted to only after every other remedy has failed and when the teacher becomes thoroughly convinced that the normal nature of the child has become so perverted that he cannot be induced to act in harmony with his highest good. Coercion is really an acknowledgment of failure; when it is resorted to, it is more for the good of the school as a whole than for the individual pupil. It sometimes happens that the environment of the child has been so abnormal that it has crushed his child nature; but in the great majority of cases the teacher may lead him

to see his relation to the school law if she approaches him in a spirit of love.

The ideal school is that in which the organization is in such complete harmony with child life that the pupil will not be conscious of any restriction. The personality of the teacher and the atmosphere of the school should be such that the pupil will unconsciously obey the laws of the school and at the same time feel that he is being obliged to bow to no external authority. The ability to bring about such conditions is the supreme test of the teacher. She must know which of the child's impulses are normal and which are abnormal, and be able to transform the abnormal into normal impulses. She is to do this, not by coercion, but by inspiration.

SCHOOL SHOULD BE ADAPTED TO THE NATURE OF THE CHILD

As the teacher is not to substitute her will for the will of the child, so she is not to substitute her motives and impulses for those of the child. She must realize that the child's way of looking at things is different from that of the adult; that motives that appeal to the adult will not appeal to him. Conduct which seems to her to be wrong may not seem so to him at all; what seems to her a waste of time may be to him a great source of development. The child is not a little man or woman, as some people seem to think; he is not a man in any sense of the term; he is a different kind of being. He has thoughts, emotions, and feelings all peculiar to himself. As he grows up, he gradually comes to see things as adults do, because he grows up in the adult's environment. From the adult's standpoint, the child rises to higher and higher motives; he becomes a better and more complete being. But we must remember that this is

only the way the adult looks at it; the child does not see it in that way at all; and if we had a perfect standard by which to judge life, we might find that the child is right. Indeed, it was the opinion of the Great Teacher that the little child is a fitter subject for the kingdom of heaven than the adult; and those who have understood child nature best have been the ones to pay the child the highest tribute. Wordsworth seemed to think that the golden age of man is in his infancy. We all remember this tribute which he paid to childhood:

> Our birth is but a sleep and a forgetting:
> The soul that rises with us, our life's star,
> Hath had elsewhere its setting,
> And cometh from afar.
> Not in entire forgetfulness,
> And not in utter nakedness,
> But trailing clouds of glory, do we come
> From God, who is our home:
> Heaven lies about us in our infancy.

We must learn to take the child as he is and make his environment conducive to growth. We must let him grow like the plant, in his own natural way. We can no more force his growth than we can force the growth of the oak. It matters not how rich we may make the soil or how bright the sunshine may be, we can force the oak to grow no faster than nature intended. Indeed, the soil may be so rich and the sunshine so bright that the growth of the plant will be dwarfed; and no matter how conducive we may make the child's environment to his growth, he will not grow faster than nature intended. We may force the accumulation of knowledge; but knowledge is not growth, and too much knowledge accumulated without being organized and applied is hostile to growth. In spite of the time-honored adage, knowledge is not power any more than food in the stomach

is power; it may become power or it may not. It is not power until it has been assimilated into bone and muscle, and in the stomach of the dyspeptic this may never take place.

The child's knowledge of right and wrong depends, at first, on the conditions about him, and for this reason these conditions should be conducive to his highest good. His environment should be such that he will base his conduct on proper motives and never on such as appeal to his lower instincts. The school organization should be such as to develop in him a proper conception of right and wrong. The school organization is, indeed, the chief moral force the teacher has at her command. It is superior to preaching, for preaching will do no good unless the school organization is such as to put the preaching into practice. It will do no good to tell the pupil not to lie, if the school is organized in such a way as to bring the greatest immediate good to him by lying. We can never bring the pupil to a proper conception of right and wrong except through self-activity. Hence, when we crush the child's self-activity and resort to coercion, we destroy the greatest means at our command for the development of moral force.

The school where the child has been trained to be obedient to the real law, and where he moves freely about without external pressure because the habit of obedience has been formed, is the only kind of school in which adequate results can be obtained. It is the only school where the highest development of the child, physically, mentally, and morally, can be brought about. In any other kind of a situation his growth will be forced, hence unnatural and without the harmonious development of all his powers. In an atmosphere of freedom we not only bring about, in a natural way, the child's

complete and normal growth, but we are no longer troubled with the question of discipline. The child is hard to control only when he is forced to act contrary to his nature. If the schools were organized in harmony with his native tendencies, he would be easy to control, for it would be more natural for him to obey than not to obey. When we understand child nature completely and adapt the work of the school to the child's present needs, the question of discipline will largely have been solved.

WHEN THE LAW IS VIOLATED

Of course there will always be abnormal children who will require special treatment. The home conditions and training of many children prior to their coming to school, and even after they start to school, are not wholesome, and special tact is required in dealing with such children. However, in the great majority of cases home conditions have not been so bad but that love and patience can bring things right in a very short time. Such children may not understand everything in the school, and its organization may not suit their fancy; they may not have the same insight that the normal child has, who has been taught the spirit of true obedience from the cradle; but they will be willing to walk by faith for awhile, if they are sure of the love and sympathy of the teacher. It is only in the isolated case that the child will not respond to proper conditions in the school. Nature is such a great educator that it takes very abnormal conditions in the home to put the child beyond the power of its influence, and what has done much to save the child from bad conditions in the school will also do much to save the child from unwholesome conditions in the home. Only those tendencies that are inherent and

deep in the child's nature will render him insusceptible to the proper conditions in the school. The child who will not respond to such conditions is defective, physically, mentally, or morally, and, if such defects cannot be removed, the school can do but little for him and he would better be removed to an institution provided for his type. Physical defects render a child abnormal. If the child shows an inclination not to respond to the conditions in the school, his physical condition should be looked after. Perhaps the worst enemies to good work in the school are defective vision or hearing, malnutrition, adenoids, enlarged tonsils, and nervousness.

Sometimes the child is abnormal because he is below or above the average in mentality. Either condition will put him out of harmony with conditions that are suited to the normal child. When moral perversion is a result of heredity, it will be hard to overcome; but when it is a result of improper home conditions, it can be overcome by the right kind of treatment. It requires an abundance of patience, love, sympathy, and tact on the part of the teacher.

But sometimes even the normal child will lapse into lower tendencies and fail to respond to the laws of the school. Fits of stubbornness will get possession of him and he will tax the teacher's patience to the limit. In such cases all depends on the teacher's patience holding out; for, if she will keep her head and keep in view the ultimate end she is trying to attain, the pupil will, in the great majority of cases, see the error of his way in a very short time. If he does not, he should be made to realize that, by his attitude, he has severed his relations temporarily with the school and that he must get right before these relations can be restored. He must be made to feel that by his failure to harmonize with the school

he has severed those relations and that the only way he can restore them is by changing his attitude toward the school and by obeying its regulations. He must realize that his offense is not against the teacher, but against the school, and that he alone can make conditions right. The teacher should never take an offense of a pupil as personal. She should always be in the attitude of a third party, ready to do all in her power to bring the two parties, the offender and the school, together. When she assumes this attitude, she can sit calmly by, while the offender solves his own problems, sees his own mistakes, and manifests a disposition to make things right. This attitude on the part of the teacher is in perfect harmony with the origin and nature of the school law. If the teacher begins to fret and worry, and to regard the pupil's offense as a personal thrust at her, she acts as if she were personally responsible for the laws of the school being what they are.

The teacher must remember that the attitude of the pupil is the all-important thing. If his attitude is right, she may overlook with safety the external act; but if his attitude is wrong, he is wrong, it makes no difference how obedient he may be externally to the laws of the school. If the pupil who has violated the laws of the school shows that he is sorry for his conduct, so far as that pupil is concerned nothing more should be required of him. He may have to bear the natural consequences of his offenses, just as we all have to suffer for our mistakes; but his attitude toward the school is as right as it can be. However, if a pupil asserts that his attitude is right when it is not, there is nothing to do but to remove him from the school until we are thoroughly convinced that he is really sorry for his deed. He should be required to study his offense until he sees clearly that

it violates the real laws of school life. Many of our mistakes in school discipline have been due to our requiring blind obedience of children. Children do not like to obey without knowing the reason any more than grown people do, and we cannot get the right kind of obedience from them until we show clearly to them why they should obey. The best exercise for the child when he has committed an offense against the school is for him to study the nature of the offense until he sees clearly that it tends to destroy the usefulness of the school. He should never be sent home during this time; but he should be isolated from the other pupils and allowed to take no part in the exercises of the school until he clearly sees the error of his way and manifests a right attitude.

Thus we see that the real law of the school cannot be written out. Indeed, the law of no organism, whether that organism be a school, church, or state, can be written out. The written law is a very poor expression at best of the real law of the organism, and the question of school discipline will not be solved until we get the child to understand the real law of the school. The pupil must be induced to obey the spirit rather than the letter of the law; in fact, obedience to the letter of the law is not obedience at all; it does not lead to obedience, but to blind submission, which is disastrous to the complete and harmonious development of the child.

Topics for Report and Investigation

1. Democracy in school government and its relation to the development of self-control.
2. The relation of physical defects to the conduct of pupils.
3. The management of the subnormal and backward child.
4. Health supervision in the schools of America.
5. The management of the precocious child.

Further Readings

Bagley, W. C. *Classroom Management.* Macmillan.
———. *School Discipline.* Macmillan.
Dresslar, F. B. *School Hygiene.* Macmillan.
Hughes, James L. *Froebel's Educational Laws,* pp. 222–247. D. Appleton & Co.
Morgan, B. S. *The Backward Child.* G. P. Putnam's Sons.
Tompkins, Arnold. *School Management.* Ginn & Co.

CHAPTER XII

THE HEART OF THE TEACHER

TO THE teacher has been given the most delicate work that God ever intrusted to mortal hands—shaping the eternal destiny of little children. In the teacher's hands God has placed the raw materials of his most wonderful creation, and it is her task to shape that material to a destiny worthy of its creator. The teacher has the child at the most plastic period of his life, and what he becomes in life will depend very largely on how she performs her task. Thus her work carries with it the greatest responsibilities, and no one should aspire to the office of teacher unless she is willing to assume these responsibilities seriously. No one is in a position to do more good than the teacher, and likewise no one is in a position to do more harm. Whether good or harm results from her work will depend upon whether her heart is in it.

Thus the heart of the teacher is the important thing. Her knowledge is important, her manners are important, her ability to impart what she knows is important; but most important of all is the heart she puts into her work. She may put into her work all other things, but if she does not put her heart into it, it is largely valueless. The teacher, above all others, should have just one aim in life and she should be willing to sacrifice all else to that aim. The growing life of the child should be everything to her, and she should be willing to sacrifice all, that the child may live.

This is a great age for reforms. The program of the schools never had such a shaking up as it is now receiving,

and it is more than likely that the next ten years will make the school almost an entirely different institution from what it is to-day. In the mechanics of school work we are fast "leaving our outgrown shell" and the "low vaulted past" and are building for ourselves "more stately mansions." We are making most rapid progress in school architecture, school organization, school sanitation, and in almost every phase of school work; but we have not progressed as much as we should in that most needed of all reforms—the reform of the teacher's heart. It is true that the school business has more heart in it than ever before; teachers are guided more by love and sympathy than ever before, and the day of the heartless teacher who ruled the children by fear is almost a thing of the past. But, while much has been done to make the work of the schools a matter of the heart and not of the head only, too many teachers even yet look upon their work as a cold business proposition and deal with their pupils about as the business man deals with stocks and bonds. However, the school is one place where business is not business, and the teacher who does not set the child's life, his feelings and sensibilities, above the geography or the arithmetic lesson will make a serious blunder in the education of that child.

Teachers frequently complain that their task is a hard one, and no one will question that they have some ground for such complaint. However, did they not know before they took up the work that it is no easy task? Did they not know that the life of a teacher is full of annoyances, vexations, and a thousand things that try her patience to the limit? Knowing this, they took up their work, and they have no right to remain in the schoolroom and hold in their hands, as they do, the destiny of their children unless they are willing to

bear bravely the responsibilities that go with that work.

Then the hardships of the teacher's work are largely due to a divided devotion. Too frequently she has other ambitions than the growing life of the child. She too frequently thinks more of her own ambitions and desires than she does of the lives of her children. The teacher cannot serve God and Mammon at the same time, and her hardships are a result of her serving herself when she is claiming to serve the child. The only way to happiness for the teacher is for her to make up her mind that she is willing to lose her life that she may have the life that is more abundant. No one can be supremely happy in the schoolroom unless that one is willing to make herself "a living sacrifice" that better things may come to the child. The teacher's work is a joy when there is singleness of devotion; it is drudgery when devotion is divided.

THE SUCCESSFUL TEACHER

There are many elements in the life of a successful teacher which cannot be mentioned here. It is our purpose at this time to call your attention to the more fundamental of these elements and to discuss the importance of heart in the teacher's work.

1. *Optimism.* One of the most vital elements in the life of the successful teacher is the spirit of optimism. The person who is a victim of despondency and unable to shake off the disease commits a crime every day she remains in the schoolroom. She casts gloom over the lives of the children under her care and does them a permanent injury. They unconsciously assume her disposition and, if they are with her long enough, will absorb the germ of melancholia into their own lives. The unconscious tuition that goes out from the teacher is far more

important than the work she consciously does. The spirit that emanates from her will do more to shape the lives of her children than do the grammar, arithmetic, or geography lessons; hence one of the saddest things in the world is for a gloomy, despondent, sour-faced teacher to have in her charge a room full of little children and to be permitted to poison their lives. The growing child is like the growing flower in the garden in that it loves the sunshine, and it will pine away if it does not get it. You may put into your garden every other element necessary to the growth of the flower, but if the sunshine does not come down upon it, it will never attain its possibilities.

A room full of children where there is no sunshine is impervious to every educational effort of the teacher. The recitation without cheer is a dead recitation, and it is soon forgotten. The recitation without warmth can result only in harm to the children, and there cannot be warmth in the recitation unless the teacher has a sunshiny heart and lets enthusiasm for her work flow out from her life. All of us have seen children sit in the class lifeless while the teacher goes through the motion of hearing the recitation. We have also seen recitations where the fire flies, where there was enthusiasm in the heart of the teacher which caused her face to glow and beams to go out to the children and set their souls afire. When you put a grain of corn into the cold ground of winter, it rots, in most cases, and does not sprout; but if you put the same grain into the warm ground of the spring or summer, it will come up in a few days. It was the same grain and the same ground; the only difference was in the warmth. Two schoolrooms may be alike in every other respect, but the difference in warmth will make all the difference in the world. The difference

between the child and the grain of corn is that we can tell when the grain of corn has decayed, but we cannot tell so well when the work of the school ends as disastrously for the child.

Of course, we cannot understand the mysteries of growth. We cannot tell how all these things have come to be. We do not know what it is in the corn that makes it responsive to the warm ground and unresponsive to the cold; but we know that it is so. We do not know why the child will not respond to a cold atmosphere in the schoolroom, but we know that he will not, and one of the greatest crimes of the age is our attempt to make him do so. The cold heart of the teacher which causes the cold atmosphere to pervade the schoolroom has ruined more lives than all other imperfections of the schools combined. In our attempt to reform the work of the schools, it is strange that we have not struck a blow at this the greatest of all their weaknesses.

The importance of cheer, sunshine, and happiness in the schoolroom should be indelibly impressed on the mind of every teacher. She should do all in her power to keep unhappy thoughts from entering her room, and, for this reason, she should refrain from all kinds of criticism of her pupils that will lower their spirits even for a season. If they do wrong, let her remind them of it in love and sympathy. and never in such a manner as to cast gloom over their lives. She should remember that when she lowers the spirits of her children, she renders herself powerless to help them. At the beginning of each recitation she should bring about such a feeling among her pupils that they will be enthusiastic in their work and responsive to the lessons that she would teach them.

This does not mean that the teacher is to turn the pupils loose to follow their own whims. She is to hold

them rigidly to the program that she has marked out for them and that she knows is best for them. However, in doing this, she need not lose her temper and deal with them in a manner certain to drive them away from her. The way of kindness, even though it be the way of severity, is the way by which the teacher must lead her pupils if she would keep their hearts open to her and their lives responsive to her efforts.

2. *Self-confidence* is another element the teacher must possess if she would put heart into her work and reach the heart of the pupil. Too many teachers fail because they do not take hold of their work. They stand off at arm's length and do not get into the work in such a manner as to gain the confidence and arouse the enthusiasm of their pupils. This lack of confidence is due, in most cases, to a feeling on the part of the teacher that she does not know the subject or how to use the subject in reaching the child. Hence one of the first requisites to success in teaching is a thorough knowledge of the subject and a feeling of ability to use that subject in bringing about the child's development. The teacher must also know child life, especially the lives and characteristics of her own children. The work of the teacher who does not have enough interest in her children to do all in her power to study their lives and individual peculiarities is sure to end in miserable failure.

The teacher's knowledge, too, should be something more than mere book knowledge. Teachers have been accused long enough of being theoretical, bookish, and it is time they were coming down to real things. They are certainly dealing with a very real thing in the life of the child, and they should, above all people, be practical and have common sense. A knowledge of common things will constitute the teacher's most effective means

of education, and it will be a great day for the schools when those things that are right around us mean as much, at least, as the things that happened three thousand years ago and on the other side of the world.

When the teacher knows her business thoroughly, and knows that she knows it, she will be able to do her work with that confidence which will draw her pupils to her and make it possible for her to touch their inner lives. It will enable her to get away from self, free herself from self-consciousness, and enter the life of the pupil. She can then study his powers, resources, and possibilities, and know how to deal with him so as to get best results.

Then the teacher must have *confidence*, not only in herself, but also *in her pupils*. She must let them know that she has confidence in them, and for this reason she should never say or do a thing that would cause them to feel that she doubts them. She should point out to them their faults and do all she can to help them to correct them, but she should do this in kindness and never in such a manner as to lower their self-esteem.

3. *Love*. The cardinal element in the teacher's life is love for her children. Without love for her children she can never reach their hearts. It is love that brings the teacher and the pupil together and gives their intercourse that genuineness and spontaneity essential to good results. It is love that enables the teacher to look beyond the crude exterior of the pupil, the dirty face, the tousled hair, the ragged clothes, to the hidden possibilities that lie in his inner life. It is the magic word that opens the door of his heart and lets her into his life. There is no way in the world by which the teacher can reach the pupil's heart except that of genuine love.

But if a teacher does not naturally possess this love, how is she to cultivate it? In answer to this, I will say

that love is based on *sympathy*, and the teacher cannot learn to love her pupils unless she is able to sympathize with them. A safe test of genuine teaching ability is not to be found in a knowledge of the subjects to be taught, but in the ability to sympathize with the lives of children. That person who cannot recall her own childhood days and the experiences of her life as a child has no place in the schoolroom. This is the supreme test of teaching ability, and it is not enough for the teacher to feign sympathy. There is in our ranks far too much of this. There is too much would-be childishness on the part of teachers which the child easily detects and for which he has nothing but the profoundest contempt. It is only genuine, unfeigned sympathy that will draw the teacher and the pupil together and bring about that spirit of freedom so essential to good results.

The teacher who wishes to cultivate in her heart this love and sympathy for the pupil should read again of the life of Pestalozzi and his work for the children. He possessed love in a high degree and was the very incarnation of unselfish devotion, patience, and sympathy. He was willing to bury himself there with his children and be forgotten if only he could know that he was helping them to better things. Although they were ragged, repulsive, covered with vermin and sores, he stayed with them night and day, through sickness and in health. He wept with them in their little sorrows and rejoiced with them in their childish joys. He was with them constantly, and it almost broke his heart when the government closed his school and he was forced to leave them. Such unselfish devotion is enough to make most of us hang our heads in shame and resolve that we shall never again complain of bad conditions and of the difficulties in our way. If he endured so much in such love,

sympathy, and patience, we certainly have no right to complain that our yokes are heavy or that our burdens are hard to bear.

Love for the pupil means that the teacher is to get away from self and seek, not her own good, but the good of her pupils. It means that she is not to think of self or to work for her own good, except as greater good to herself will mean better things for her pupils. All mere show and pretense not for the best interests of the children under her care will be carefully avoided, although it might add to her own reputation and standing as a teacher. No doubt one of the greatest hindrances to good work among teachers is the desire to make a show. There is much insincerity in reports that go out to parents, and frequently the sincere, honest teacher must suffer because of the high grade given by the dishonest teacher. While it is, perhaps, true that teachers are above the average in honesty, the temptation here is so great that many teachers fall. The teacher who places the growing life of the child above her own welfare will send to parents an honest statement of just what the child is doing, and will make no effort to deceive in order to bring some good to herself.

Love sees no fault in the child it may not have felt itself, and for this reason it is slow to criticize the child. It looks for the good rather than for the bad, and when the child does not learn, it imputes that fact to its own faults rather than to those of the child. However, this is quite contrary to the attitude assumed by those teachers who never think of their own weaknesses, their own failures, but charge every failure in their work to the weaknesses of the child. "He has n't been trained properly before," "he is dull," "he is indolent," or "he is mischievous," when, as a matter of fact, in the great majority

of cases, the trouble would vanish if the teacher would correct her own faults. Love makes the teacher sincere with herself and causes her to search for her own faults and to overlook the faults of her children.

Drummond said, "Love is the greatest thing in the world," and none of us is disposed to doubt it. It will make the darkest schoolroom the lightest; the coldest, the warmest. It will cause enthusiasm to glow in the teacher's heart and send out sparks that will kindle the fires in the hearts of all her children. It will make the teacher happy in her work; it will make the children happy; it removes all the difficulties and makes the hardest problem seem the easiest. It puts a smile on the teacher's face and sends out from her a beam of sunshine that will brighten the faces of all her children. It will open their hearts and make them responsive to every effort of the teacher. When the teacher is guided by love, she cannot make a mistake; when she is not guided by love, every move she makes is a mistake. Surely love is the greatest thing in the world, and it is also the greatest thing in the life of the teacher.

4. *Patience.* A fault of teachers that does much to impair the efficiency of their work is the lack of patience. The average teacher has learned to labor, but she has not learned "to labor and to wait." She expects results too soon. She plants the seed to-day and expects to see the ripened harvest to-morrow. She is like the child who plants the grain of corn in the garden and, before it has had time to germinate, goes and digs it up to see how it is doing. She sees the weakness in the child and cannot understand that such weaknesses cannot be corrected in a day. She fails to realize that it takes time for the lessons in grammar, geography, or arithmetic to become a part of the child and she finds fault with

him because such a small part of what he learns is really transmitted into mental and moral fiber. Time is one of the greatest factors in education, and the teacher should not expect results in a day. She should do her part, plant the seed, cultivate the ground, and be willing to wait for the harvest. Patience that makes one willing to wait is one of the sublimest characteristics in the world, and especially is it of inestimable value in the life of the teacher.

5. *Faith.* But how is the teacher to attain the ideals here set forth? It would take perfection to attain such ideals, and, surely, teachers do not lay claim to perfection. It is true that the ideals here set forth are far beyond those ever attained by the average teacher; but the very nature of an ideal demands that it be beyond anything yet attained. The Great Teacher commanded us to love our neighbors as ourselves, and most of us feel that it is impossible; but just because we feel that such an ideal is impossible is no reason why we should fail to make an effort to attain it. The difficulty of attaining the ideal should make us more determined to attain it. It should help us to feel our own weaknesses and to remember that, although we cannot of ourselves rise to such heights, there is a Power that is ours if we will but reach forth our hands for it. The teacher, above everyone else, should strive to keep in touch with the source of power that will never fail her. She should realize that without *Divine guidance* she is but the blind leading the blind. Some one has said that the greatest miracle the world ever saw is the education of a child. It is far greater than bringing sight to the blind, hearing to the deaf, or causing the lame to walk. Does the teacher believe she can perform such a miracle without being in close touch with the source of power? Before the

prophet brought life to the widow's son, he wrestled long in prayer, and before the teacher can bring life to the boys and girls under her care, she must also wrestle in prayer. If the Great Teacher needed to go apart to the mountain top to be alone to commune with the Father, how much more do we? If He felt the need of power from above, how much more should we? He felt the need because He saw all the difficulties and pitfalls in his way. We do not see the need because we are blind, and ignorant of the real dangers about us. He trusted his Father's guiding hand from the day He talked with the doctors in the temple until the day when He said, "Father, into thy hands I commend my spirit"; but we go in blissful ignorance because we do not see the pitfalls about us.

The teacher should realize that she is shaping the eternal destinies of the children under her care. Every lesson she hears, every word she speaks, every decision she makes, changes their lives, not only for time, but for eternity. She says this little fellow shall be retained in the third grade, that one shall be promoted to the fourth, without thinking very much about it; but such a decision makes all the difference in the world to the child. He will be one kind of a being if he remains in the third grade, another if he goes to the fourth; he will be one kind of a being if she punishes him for his conduct to-day, another if she does not.

It is for this reason that all great teachers have trusted in the Divine Hand to guide them. They have realized that all mere intelligence, shrewdness, worldly wisdom, are nothing unless they are tempered by that wisdom that comes from above. The greatest teachers have been the most humble men and women, the most helpless in themselves, and have always kept in close touch with God's guiding hand.

6. *Self-forgetfulness.* Thus one of the essential elements in the life of the true teacher is the willingness to be forgotten. The true teacher is not in the business for her own personal gain; but she is willing to lose her life that she may have the life that is more abundant. She has counted the cost and has clearly made up her mind that the eternal riches of her reward as a teacher are to be desired above those other rewards that satisfy only for a season. She understands that the law of self-realization is the law of self-forgetfulness; that the grain of wheat must be buried and lost sight of, if it would produce the harvest. Most of us remember the story of Palissy in one of Longfellow's poems. We remember how he worked year after year for a new enamel. Hunger and even starvation threatened him, but still he worked on. He used the furniture of his room to kindle his fires, and let his family go in want that he might succeed in producing the enamel upon which his heart was set.

> O, Palissy! within thy breast
> Burned the hot fever of unrest;
> Thine was the prophet's vision, thine
> The exultation, the divine
> Insanity of noble minds,
> That never falters nor abates,
> But labors and endures and waits,
> Till all that it foresees it finds,
> Or what it does not find creates!

Yes, the teacher must have that "divine insanity of noble minds," that "hot fever of unrest," which will cause her to lose her life in the life of the child and to forget self in order that better things may come to him. She must be as eager to find the best in the lives of her pupils as Palissy was to find the choice enamel upon which his heart was set, and to do that she must be willing to

lose sight of self, her own ambitions and desires, and live only for the welfare of her pupils. In the words of Arnold Tompkins, "the theorist or the philosopher may make his mark as such, but the man or woman known, honored, esteemed, and loved as a teacher must become such through an intense sympathy with the unfolding life of others—a sympathy that knows no peace except in self-forgetful labor nurturing the lives of those struggling for better things."

Topics for Report and Investigation

1. The teacher's preparation.
2. The teacher's health.
3. The teacher's ideals.
4. The teacher's development while in service.
5. The personality of the teacher.

Further Readings

James, William. *Talks to Teachers*, pp. 3–14. Henry Holt & Co.
McKenny, Charles. *The Personality of the Teacher.* Row, Peterson & Co.
Palmer, G. H. *The Ideal Teacher.* Houghton Mifflin Co.
Tanner, Amy Eliza. *The Child.* Rand McNally & Co.
Tompkins, Arnold. *School Management*, pp. 38–84. Ginn & Co.
Terman, Lewis M. *The Teacher's Health.* Houghton Mifflin Co.
Weimer, Hermann. *The Way to the Heart of the Pupil.* Macmillan.

CHAPTER XIII

MAKING THE PUPIL AN ACTIVE INQUIRER

THE teacher must ever remember that it is the child's development she is trying to bring about. Everything she does should have as its motive this one aim. If there is any part of the school organization that does not help the child in this struggle for self-improvement, it is an unessential part of the system, and should be eliminated. The buildings, the equipment, the teacher, the lessons, the rules and regulations, are important only as they help the child to become better physically, mentally, morally, or industrially. The efficiency of a school system can be measured, not by its buildings, its equipment, its teaching force, or its course of study, but by its ability to transform the boys and girls who come to it into strong manhood and womanhood. How does what I am doing help the child? is a question the teacher should be constantly asking herself. How can I transform this geography lesson into mental and moral fiber? How can I arrange the child's play so as to make it count for most in his development? She should never be content to go through with the daily routine of her work, however perfect the mechanism of the school may be or however excellent her methods of instruction, without knowing that her efforts are having a wholesome effect on the child and bringing him nearer to what she would have him be. She should never become so absorbed in the lessons, the textbooks, the rules and regulations, as to let them stand between her and the child. These things are all good in their places, but they should stand no chance when they impede the child's progress.

The machinery of school work has become so complex, there is so much red tape, so many reports and examinations, and so much talk about lessons, textbooks, grades, etc., that the child has almost passed out of sight in the average school. His individuality is lost sight of, and he becomes a victim upon whom we make our displays and administer our tortures. We use him for the good of the system, instead of the opposite, as it should be. The teachers go to the normal schools and colleges, fill their heads with the lore of past ages and latest fads in methods of instruction and supervision, and then go out to find the victims through whom they can show what they know and what they can do. These victims are often unaware of their fate, and, like a lamb dumb before his shearers, they open not their mouths.

THE LECTURE METHOD

One of the greatest evils in teaching and one that is doing most to crush the child is the so-called lecture method. This method is resorted to frequently because of an erroneous conception of the learning process. Teachers seem to feel that there is a certain amount of information they must force upon the child and that they can best accomplish this result by lecturing to him, when, as a matter of fact, they are, by such a method, taking the most direct course to quench his enthusiasm and to render him impervious to their every effort. If the child is to learn, he must be made the center of gravity in the school, and the teacher must have as her aim, not the filling of his head with the customary quantum of information, but the arousing of his dormant powers. The lecture method may do very well when the teacher wants to arouse the child's emotions and put inspiration into a certain lesson, but it is the most wasteful method

imaginable when extended effort is required. Such a method will have but a small part in the work of that teacher who is closely in touch with the child and with the needs of his growing nature, and who has the patience to labor and wait for his development.

The teacher should always remain in the background in the school and put the child in the lead. She should conduct her work with a view to arousing him and inducing him to use his faculties. She should let the child do most of the talking; when she talks, she should do so only to arouse him to effort and never merely to cram into his head some information. Sometimes by the lecture method the teacher will appear to be obtaining results and by it she can make a greater show for a time, but such seeming results are most disastrous to the child's future progress. The lecture method will have but small part in the work of that teacher who is inspired with a genuine love for her work and for the child and is willing to sacrifice her own good for his development.

In training the little child the teacher must never grow impatient and try to force results. Such a course would prove as disastrous to the growing life of the child as it would to the tender plant. The teacher must be sure that she has done her part and then wait for results. She must lose sight of her own ambitions and be willing to sacrifice herself that the best things may come to the child.

THE PUPIL AN ACTIVE INQUIRER

Closely allied to what we have been saying is the next point, namely, that the child should be made "an active inquirer instead of a passive recipient." He should be made to feel that he is the center of gravity in the school and that he grows only by what he does for himself.

The teacher very well knows that she can no more do the child's school work for him than she can do his eating, but, in spite of this, in the great majority of cases, she takes the rôle of chief importance in the school and makes the child become a mere passive recipient. Right at this point the teacher can learn an important lesson from the physician. The good physician is interested primarily, not in the medicine nor in his methods of administering it, but in the effect it will have on his patient, and we should regard him as a very poor physician who thinks more of the medicine and the way he gives it than he does of the patient's progress toward recovery. We do not think much of the physician who gives his dose and goes about his business, feeling that he has done his duty, regardless of the effect it has on the patient. Yet it is the common practice among teachers to do this very thing. They give their medicine hour after hour, day after day—and sometimes pretty bad medicine it is, too—without ever stopping to see what effect it is having on the child. They forget that the real purpose of their work is to arouse the pupil to effort, and seem to think that their chief aim is to cram into his head the facts of grammar, geography, and arithmetic.

The teacher should feel that the information she gives the pupil is but a sample, a taste, as it were, of the good things that are in store for him if he will but become an active inquirer. As the purpose of the physician's medicine is to arouse his patient's bodily organs to perform their natural functions, so the purpose of the information the teacher gives the child is to arouse him to perform his natural functions, physically, mentally, and morally.

How blind we are not to recognize and act upon this important truth; yet we go on day after day trying to

force upon the child the information, contained in textbooks, and the only activity he displays, in many cases, is his determination not to receive it. Often he absolutely refuses to respond to the efforts of the teacher, but she goes on just the same, content with the meager results, and never dreaming of the great possibilities in her work if she would only make the pupil an active inquirer. If the teacher accomplishes adequate results in the schoolroom, she must study the child's nature more than she has done in the past and adapt his work more to his individual needs. She must possess a broader vision of his work and resort to no stereotyped method of procedure. If one method will not arouse her pupil, she must try another, and another, her aim being to arouse him at any cost. When the teacher has found the bent of the child's mind, what his natural interests are, and adapts her work to his needs and capacities, he will no longer be the inactive creature that he is, but he will be as alert in his school work as he is in his play. Before the child comes to school his natural interests are active and lead him to learn many lessons of the things about him. In fact, during no similar period of his life is there such growth, such acquisition of knowledge, as during these years before the child enters school. It is only after he enters school and is tied down to the cold formalities of textbooks that he appears indifferent to his work, and the trouble begins. Even at school on the playground he is not the same fellow he is in the schoolroom. On the playground he is active, alert, full of enthusiasm, and courageous; but in the schoolroom he closes himself up like a clam and seems to have little desire to take part in the work.

There is no reason why there should not prevail the same healthful condition in the schoolroom as prevails

on the playground, and such conditions will prevail when the teacher takes cognizance of the child's natural interests and instincts and transfers playground methods to her work in the schoolroom. For the accomplishment of such results, there must be brought about a closer relationship between the teacher and the child, and freedom must take the place of the cold formalism that we find in so many schoolrooms. The teacher must throw off the mask, be her real self, and let her pupils feel that she is not a master whose word is law, but that she is their friend, ready to help them wherever she can. When teacher and pupil stand in the relation of friend to friend, and the pupil feels that the work of the schools is really conducted for him, that he is the center of gravity, he will become an active inquirer, new zeal will characterize him, and he will go about his work with a joy and accomplish results that will amaze us.

FUNDAMENTAL ELEMENTS

There are certain elements in the lives of successful men and women that will not grow in the cold formalism of the average schoolroom. Initiative and adaptability will grow only in the soil of freedom, of love and sympathy, and where the child is made an active inquirer in his work. In the remaining portion of this chapter it is our purpose to show the importance of these elements in the lives of men and women and to point out how they grow out of the conditions in the schoolroom which we have been discussing before.

1. *Initiative.* One of the most important elements in the character of men and women is initiative, the habit of outlining their own plans and executing them without direction from others. In a government like our own, where every individual is a sovereign in name, it is very

important that he be such in fact. As conditions are, there is in most of us a surplus of unused energy due to lack of initiative. William James says: "The average man lives far within his limits and possesses powers of various sorts which he habitually fails to use." In the last analysis, the difference in men is largely a difference in initiative; one puts himself into his work; the other does not. There may be all the elements of character in the cook of Woodrow Wilson that there are in Wilson himself; one puts these elements into use, the other does not. One lives nearer his maximum than the other does. There are more geniuses in the world than we ever dream of. Many men could have fought the battles of Napoleon as well as he did if they had had Napoleon's initiative, if they had been able to throw themselves into the task with the energy of a Napoleon. The world is full of Caesars, Hannibals, Gladstones, and Lincolns. The only trouble is that they have never discovered themselves and the world will never know them as such. They were "born to blush unseen," but not "to waste their sweetness on the desert air," because the bud was never permitted to open into a full-grown blossom, and they had no sweetness to waste. But there was the bud just the same with all its possibilities. We could utter over every grave that crowds the cities of the dead, the world over, what the poet said of those who slept in the quiet English churchyard:

> Perhaps in this neglected spot is laid,
> Some heart once pregnant with celestial fire;
> Hands that the rod of empire might have swayed,
> Or waked to ecstasy the living lyre.

There is no limit to our possibilities if we would but exercise the initiative to live up to our maximum. Most of us, however, live but meager lives, content to remain

on the seashore, picking up here and there a few shells that the tide has chanced to wash our way, never dreaming of the great ocean of possibilities which lies out before us and which would be ours if we but had the courage to leave the shore and push our bark out into it.

As the story goes, an eaglet was hatched in the same nest with some chickens, and thought the barnyard fence was the limit of his world, until one day he caught sight of one of his kinsmen as he swooped down into the lower air and gave him a vision of the greater world in which he might live. With a scream he left his narrow confines, and, thereafter, lived the life that nature had intended for him. The teacher does her greatest work when she touches her pupil into a realization of the larger life that is open to him. She has but a narrow vision of her task if she becomes so absorbed in the daily routine of her work as to fail to arouse him to a realization of his boundless possibilities. The trouble with most of us is that we have not seen the vision ourselves; we are not alive to our opportunities. We see nothing more in our tasks than the daily routine, the hearing of lessons, the discipline, the reports, promotions, etc., and never realize that we have the most glorious work that God ever intrusted to mortal hands—the shaping of the immortal destinies of men and women. We have a work that the very angels would delight to do. God has put into our hands the mere possibilities, the hidden potentialities, the raw material of his most glorious creation, and it is our task to make the finished product what He would have it be. There is only one way to do this, and that is by making the child's environment conducive to self-activity. When the teacher has done this, she has done all she can do to aid in the formation of the all-important habit; when she does more than this, she

renders impossible the very end she wishes to attain. The habit of initiative will not grow in the cold formalism of the average schoolroom where everything is planned by the teacher and the pupil has nothing to do but to obey her orders. If the pupil is to act independently when he leaves school, he must learn to act independently in school; for here, as elsewhere, he must learn to do by doing.

2. *Adaptability* is another element that is indispensable to the success of the modern man. One of the chief requisites of the man of to-day is that he be able to adapt himself to the constantly changing conditions. Especially in the business world is this true. New methods of business are constantly being introduced, conditions are changing, and the man who cannot adapt himself to these new conditions must step down and out. The reason we read of so many failures in business is that men are lacking in the power of meeting new conditions as they arise. Men who have stood the test for years under old conditions are constantly giving place to the man who is alert and wide awake to put himself in harmony with every phase of progress. New railroads are being built; freight rates are being changed; markets are being shifted, old ones being closed and new ones opened up; new methods of production are being introduced which cause a constant variation in prices; and in hundreds of ways conditions this year are different from what they were last. If a man does not adapt himself to them, he will stand no chance in competition with the man who does. This is no time for the stereotyped method; it is the age of open-mindedness. The business man, or any other man who closes his eyes to changing conditions, is a misfit. This is especially well illustrated in one of the Pete Crowther stories that recently

appeared in the *Outlook*. In the particular story we have in mind, the old-fashioned merchant complained to Pete that his business was fast going from him. His customers who had been trading with him for years were leaving him and going to the newcomers who had started a business just across the way. The old fellow had been regarded as a successful business man by the little community in which he lived and was chagrined that failure was staring him in the face. He knew that his failure was not due to a lack of confidence in his business integrity on the part of the people. He had always regarded his reputation for honesty as his chiefest asset. He knew that his failure was not due to his inattention to his business, for he was never more attentive than at the present time.

Pete, as a traveling salesman, had been visiting this place for a number of years and had acquired a great admiration for the owner as a man. But he had long before seen that he must change his methods or his trade would leave him. He realized that his trouble was that he had lived too much in the past, and was too much influenced by the idea that methods that succeeded once would succeed again. This merchant bought the same goods he did ten years ago; he bought from the same markets; he arranged his store in the same way; he used the same equipment, the same method of displaying his goods, and the same method of advertising. The newcomers were up to date; they had caught the spirit of the new age; they shifted their markets with a variation in prices; each morning saw a new arrangement in the display windows; they were always having a special bargain to draw the people; and in every phase of their business, they were in line with the spirit of the age.

As the story goes, Pete pointed out to the complaining

ing merchant the cause of his failure and, after much urging, induced him to adapt his methods to the needs of his business. When he had done this for a few months, he saw his business coming back to him; his old friends who passed him for the newcomers were glad to return, and at the end of the year, instead of being a failure, his business far exceeded his most sanguine expectations.

So it is with every man; his business depends on his open-mindedness, his willingness to accept conditions as they are and adapt himself to them. The habit of open-mindedness. It needs the atmosphere of freedom, self-activity, and investigation. If the child is forced to do as the teacher directs without exercising his own individuality, his actions and modes of thought soon become fossilized, as it were, and the habit of versatility will never be developed. What we call old-fogyism is a result of a habit or attitude of thought acquired during the school period, and a great many people acquire the habit before they are aware of it. The old fogy is one who sees things just one way and believes his opinion worth more than that of all the world besides. When you convince him, he is of the same opinion still, because his nerve centers have formed the habit of discharging in a certain direction and it is impossible for them to discharge in any other way. This is true not only with reference to thought; it is true with reference to actions. The old fogy not only thinks in the same channel, but he acts in the same way, and this is fatal to the success of the man who must meet modern conditions. One of the most pathetic sights in the world is the man who is still existing, but belongs to another age—the man who lives in the past and is constantly referring to the conditions that "used to be." The only way to avoid such a state is by keeping our thoughts and actions constantly in

harmony with actual conditions and by cultivating at all times the habit of open-mindedness.

It is very important that the teacher possess this habit of adaptability if she wishes her pupils to possess it. She should be open-minded and ready to change her methods with changing conditions. But, as a matter of fact, most teachers are fatally lacking in this important element; they are the greatest slaves in the world to conventionality. They continue to do things as others have done them, and seldom stop to inquire the reason. They teach the same studies in about the same way as others before them have taught them. Few of us could give a reason for doing things as we do them; few teachers know why they teach the studies they do and in the order they teach them. They do things day after day, just as they have been accustomed to doing them, until the spirit has fled from their work, and their pupils, instead of being self-active, alert, and independent as they should be, are nothing but dependent automata. This is true not only of the teacher in charge of the room; it is also true of the average superintendent. The fact that there is practically one system of organization for the schools the country over is abundant evidence of the school man's lack of adaptability. The fact that so many cling to old-time methods and the old-time course of study, when the reason for doing so has long since ceased to exist, shows that the average school man is as much a slave to conventionality as the teacher in the room. We realize that the school man cannot always do just as he likes, because the people will not follow his leadership; but the fact that the people will not follow him in adapting his work to changing conditions shows that the schools have failed to develop in them this habit of adaptability.

If versatility is such an important element in the success

of men and women, the school organization and course of study should be conducive to the growth of such a habit. If the school of to-day tends to make machines out of boys and girls instead of wide-awake, open-minded, progressive men and women, it is not the school the times need, no matter how serviceable it may have been in the past. It is not enough to know that it was the school in which our fathers were educated, or the school we attended; but we must brush aside all sentiment and demand that it satisfy present needs.

TOO MUCH IMITATION

In theory, we all agree that the work of our schools should satisfy present needs; that there is something wrong with the schools that tend to make lawyers out of the boys of an agricultural community, or farmers out of the boys in a mining district; but, in practice, we look around to see what the other fellow is doing. We censure the boy at the board for copying; yet we do the same thing in copying from our neighbor. If he has manual training in his schools, we want manual training, too; if he has domestic science, we want the same; and few of us stop to ask whether these things will satisfy the needs of our community or not. In civic affairs it is the same way. If a neighboring town has a public playground, we want one, too; if it has a public park, we must have one, it matters not what the cost. During the past quarter of a century the kindergarten craze has swept over the country like wildfire. The feeling is now a little more sane, but at one time the people were clamoring for the kindergarten at any cost. The sentiment seemed to be that anything would do, just so it was called a kindergarten, and the sins that have been committed in the name of the kindergarten are

enough to cause its founder to turn over in his grave. But, with all this excitement, very few people have caught the spirit of the Froebelian philosophy, and the average kindergarten is nothing but the old primary school with a few things added.

So it is in almost every line of work: imitation is the method pursued. If we do not imitate others, we imitate ourselves, and this is equally fatal. Imitation sometimes has a place in education; but it should not become so prominent a feature of the schools as to destroy the pupil's power of initiative and individuality. It is doubtful whether it should ever be resorted to as a conscious means. The young child is a natural imitator because he has not yet acquired the power of independent action. The instinct will take care of itself and needs no encouragement. If it is not encouraged, it will do its work and tend to vanish at the proper time. The teacher should create such conditions for the child that he will gradually pass from the stage of imitation to independence of action. The work of the schools certainly should not be principally imitation, copying, and reproduction. Conditions should not be such that the children will be taught to speak like others, to write like others, and to reproduce the thoughts of others, for under such conditions it is impossible to develop independence of thought and action. If the schools are organized to produce imitators, the products of these schools will be mere machines—tools in the hands of others, offering an inviting field for the demagog who would use them for his own personal aggrandizement.

Topics for Report and Investigation

1. The child's instincts as a guide in his education.
2. The physical nature of the child.
3. Making the child the center of gravity in the school.

4. Uniformity and individuality in the schools.
5. Pestalozzi's place in the history of education.

Further Readings

McKeever, William A. *Training the Boy.* Macmillan.
Nearing, Scott. *The New Education.* Row, Peterson & Co.
Pearson, Francis B. *The Vitalized School.* Macmillan.
Quick, R. H. *Educational Reformers,* pp. 290–383. D. Appleton & Co.
Wilson, H. B. and G. M. *The Motivation of School Work.* Houghton Mifflin Co.

CHAPTER XIV

PROPER HABITS OF WORK

ONE of the greatest objections to the mechanical routine that obtains in the average school of to-day is that it renders the pupil unnatural. He assumes in the classroom a false attitude or bearing and tries to be what he is not. He has so long been dominated by false interest that it is hard for him to be himself. He wants to be like some one else, to do as some one else does, and to see things as some one else sees them. He does not read in his natural tone; he does not write in his own style; he does not discuss his lessons as though they were a part of him, and he does not see things with his own eyes, or hear them with his own ears. Having eyes, he sees not; having ears, he hears not; and having a mind, he does not understand.

HABIT OF INVESTIGATION

One of the results of arranging the child's work in harmony with his instincts will be that he will cease to imitate others, and be himself. His eyes will be taught to see, his ears to hear, his hands will be taught to handle real things, and his mind will be taught to solve real problems. He will no longer be required to see things through the eyes of others, or to understand them with the minds of others; but his own senses will be keen to everything around him. His senses will be cultivated by being brought into use and by being required to serve him. He will become acquainted with nature in all its various forms, and when he reads books, it will not be to learn, but to verify; it will be to compare his own

vision, his own hearing, and his own methods of thought with those of others.

As conditions are now, the ignorance of the average man concerning the common things around him is amazing. He does not know the songs or the habits of the birds, the names of the grasses and the flowers, or the conditions under which they grow; he does not understand the simple phenomena of nature or the action of natural forces that are taking place around him every day; he does not know how the clothes he wears are made, or how the raw materials from which they are made are prepared. In many cases he does not know how his food is prepared, or what forms are most nourishing and produce the best results in mental and physical vigor. He does not know the common diseases to which plants and animals are liable and he is helpless when it comes to treating them; he does not know the materials out of which the furniture of his home is made, which is best and cheapest; he does not understand how goods are brought to him from other lands, or the laws that have been made to facilitate their transportation. This appalling ignorance of the common things around them on the part of men and women is due to their having been taught to see with others' eyes, to hear with others' ears, and to think with others' minds. They have been taught that education begins and ends with books and they have not learned to observe for themselves. Socrates has been said to have been one of the wisest men who ever lived; yet he seldom went beyond the walls of Athens; but he saw, he heard, and he understood the things with which he came in contact. If we could but teach our pupils to use their senses, we should have but little trouble in bringing about their complete development; but we can never do this so long as we

surround them with the artificial atmosphere of books.

Without the habit of attention, the pupil not only fails to accomplish anything in his school work, but, when he comes out into the world of practical affairs, he will be completely at the mercy of his environment. He will be a prey to every idle fancy that may chance to come to him, and to every external influence which may invade his environment. He fails to acquire the habit of concentration, of directing his powers to one thing, and his interest through life will be continually flitting from one thing to another. Unless one has such a mastery of himself that he can exclude, for the moment, from his vision all but the one thing upon which his heart is fixed, he cannot hope for a very great measure of success in what he undertakes.

EFFORT

Another demoralizing effect of the artificiality of our school life is that it does not develop in the pupils the ability to put forth effort, and this is one of the first conditions of achievement. Intellectual laziness is a malady common to almost all men and women because they have not been trained to put forth effort. Having been confined to artificial tasks in which they have no interest, they have become incapable of doing hard work. It is an alarming condition that the great majority of men and women fail to make a success of their business. They may eke out a mere living, but the great majority of them do not succeed in the highest sense of the term. It is said that fully 90 per cent of men and women do not do what they started out to do, and one of the chief causes of these failures is that they are unwilling to do the hard work necessary to their success. The difference in men is largely a difference in their willingness to put

forth effort. We ought to remember in our school work that we are training for the stern, practical world where there will be difficult problems to solve and where the man who has not learned to pull on a dead level, as it were, will have the odds terribly against him. It is by overcoming that we learn to overcome. It is by overcoming the hard tasks in the schoolroom that we learn to overcome the hard problems on the outside; and if we have such conditions in the schools as to require us to solve no hard problems, we shall be helpless in the face of the hard knocks of the world.

If the child's work in school is arranged in harmony with his natural instincts, he will acquire the habit of putting forth effort. It is as natural for the child to put forth effort as it is for the normal man and woman, but if the teacher does not mold instinct of the child into habit by making the conditions of his work conducive to effort, the child will never acquire the habit, and he will have to be driven to his tasks in school and he will have to be driven to them in the same way when he leaves school. It is only the few whose lives are not dwarfed by the artificiality of school conditions that retain and develop the instincts of childhood.

JUDGMENT

Another result of the normal growth and development of children is that they acquire the ability to judge the relative worth of things. It will do no good to talk about training the judgment unless we have conditions conducive to such training. The pupil can develop his judgment only by exercising it, and it is the business of the teacher to place about him such conditions that he will exercise it aright. His conclusions may be wrong, but wrong conclusions are better than no conclusions at

all. The child's information ought to be accurate; but we are entirely too willing to sacrifice thought-power to accuracy of information. If we see the pupil about to arrive at a wrong conclusion, we grow impatient, take the work out of his hands, and lead him to the conclusion we think is the correct one, as though the ultimate result were the thing of prime importance. A little more patience, a little better understanding of our tasks, would cause us to allow the child to work out his own conclusions. If he goes wrong a time or two, or even a dozen times, it is better for him to do his own thinking than to have some one else do it for him.

When the pupil comes out into the world, he is constantly required to estimate values, to decide between this fact and that. When he goes into a store to buy a piece of goods, he cannot afford to accept the salesman's judgment implicitly, it matters not how honest a salesman he may be. He must think in every transaction he makes, or he soon becomes an "easy mark" for all who would use him for their benefit. In religion, there are some vital questions which others cannot settle for him, and upon which, perhaps, hangs his eternal destiny. In politics, he does not want to be a mere camp follower, passively accepting the demagog's directions with no opinion of his own. In his social affairs, he wants to stand for something, and not be a mere tool in the hands of others. In fact, there is no sphere of life in which individual thinking is not required of the man who would be efficient.

However, according to our present methods, the teacher and the textbook are the final arbiters of things, and the pupil is given but little opportunity to think for himself. If he is not crushed by the system and made a weakling, it is because of the opportunity afforded him outside of

school for independent thought. In geography, he must acquire the facts laid down in the textbook, and is rushed forward at such a terrific rate that he has no time to think. In arithmetic, the work is so arranged as to elicit the least possible thought. Most frequently all the problems on the page can be solved by the same rule, and the work is little more than a mechanical routine. In history, he must accept without question what the textbook says. In English, where there is the greatest possible opportunity for individual thinking, the text editor has written out his notes in detail, and the pupil accepts blindly what he says. In Latin, there is no room for individual thought. The teacher stands over the pupil with her red pencil, ready to reprimand him if he digresses the least bit from the time-beaten paths. Before we accomplish in the school what we ought to, and inspire our pupils with that enthusiasm and self-confidence that is so necessary to successful work, we must change our methods so as to give the pupil a chance to think for himself.

ORGANIZATION OF IDEAS

Along with the development of his judgment, the pupil learns to organize his ideas. Mere information counts for nothing unless it is organized. The arrangement of facts according to their importance and natural sequence is necessary to a clear understanding of the subject under consideration. An isolated fact is worth nothing except as it helps to reinforce some truth or lesson. The fact that George Washington was the first president of the United States, regarded as an isolated fact, is of no consequence; but when the fact is taken in its relation to other facts, it is of extreme importance. If the fact that Columbus discovered America had no more significance than that a man discovered a continent,

it would not be worthy of our attention; but when we find out what continent he discovered and the vast chain of results that followed that discovery, it becomes one of the most important facts in the world's history.

As a rule, the pupil feels that the purpose of his work in school is the accumulation of information and he pays but little attention to the arrangement of that information in a logical whole. He is such a slave to the textbook that he has lost sight of the subject. His aim is to memorize the thought, if not the words, of the textbook; hence all facts in the book stand out as on a level plain and are regarded as of equal importance. When he has completed a book, he has a good many facts, but these facts, not being arranged in their logical order, leave him in confusion. Few pupils are able to give an outline of a textbook on history or science they have studied, and much less are they able to give an outline of the subject. They do not realize the relation of the textbook to the subject—that it may be a very large or a very small part of the subject.

From the very first lesson, the pupil should be taught that he is going to study, not a textbook, but a subject, and that that subject has a certain logical arrangement which it is necessary for him to know. If the subject is arranged in its logical order, the mind can, at once, grasp it in all its important details. For this reason every subject should begin and end with a general survey. It should begin with a general survey to give the pupil a conception of what he is going to study; it should end in the same way to give him an opportunity to assemble the facts he has learned and arrange them in one complete whole. In the process of his study he has been thinking of details, topics, sub-topics, etc., and he must be given an opportunity to see the relation of these to the subject

as a whole. Too often in the study of a masterpiece of literature, for instance, we fail to grasp the selection as a whole, because we become lost in the details—the allusions, the words, the phrases, the detached statements. These things may be very interesting, but they are important to us, at the particular time, only as they give us a thorough grasp of the subject we are studying. Our interest in the colonnade, the beautiful windows, the dome, must not cause us to lose sight of the beauty of the building; our interest in the several trees must not make us lose sight of the grandeur of the forest; so our interest in the details of the subject must not cause us to lose sight of the fact that the details are important only as they help us to have a complete view of the subject as a whole.

We must get away from the erroneous idea that the end of school work is to give the pupil some information regarding the subjects studied. Information is but a means to the end; if the end is not attained, the time devoted to the accumulation of information is largely wasted. Our aim is to lead the pupil to acquire an accurate conception of the subjects studied, and we should not be satisfied with giving him a little information regarding these subjects. In fact, the pupil should be expected to acquire just enough information to complete the mental picture of the subject and no more; for more than this causes confusion. When the artist has brought out every feature of the subject, he adds nothing by keeping on with the use of his brush. He is likely to spoil what he has done, and make the features appear less rather than more distinct. The teacher should know when enough details have been presented to make the picture clear. If she does not know this, she is likely to do harm by giving too much time to details.

Textbook writers too frequently put in facts because they feel that the pupil should know them, although such facts have no direct bearing on the subject studied. The teacher should be able to discern such facts and pass them over.

The pupil should be thorough in what he goes over, but that does not mean that he is to know all the facts about the subject he is studying. To be thorough, he must know the subject in all its *vital* relations, and the significance of the term "vital" will depend upon the point of view of the student. From the point of view of the high-school student the tariff of 1897 may be passed over with a few words; but from the standpoint of the specialist it would require volumes to dispose of it. The circulation of the blood is explained to the seventh-grader in a few pages, but the specialist reads volume after volume on it, and then leaves it with many mysteries unsolved. Thoroughness is a relative term, and its meaning depends upon the point of view of the student. The history written for the seventh-grader may properly pass silently over facts that would be regarded as essential when estimated from the high-school pupil's point of view.

There is another phase of the subject that we must not forget: both the seventh-grader and the specialist fail in so far as they fail to get a complete mental picture of the subject studied. The difference is that one leaves more for the imagination than does the other. With the seventh-grader the imagination plays an important part in filling in details; but the specialist, not being so easily satisfied with the work of the imagination, requires more real information.

All subjects should begin with an outline, and the outline should be firmly fixed in the pupil's mind as an aid to thorough comprehension. The pupil should

be taught to arrange not only the entire subject in its logical order; but he should be taught to arrange the chapters, the lessons into topics and sub-topics. In each lesson there should be a central thought. This may not be a main topic as the subject is divided; but there should be a central theme in the lesson, and particular attention should be given to the relation of that theme to the subject as a whole. The central theme should be kept constantly in mind while the pupil is studying subdivisions, and these subdivisions should be studied in their logical way. If he does not learn to study his subjects in a logical way, he gets very little good out of them. If he does not organize his ideas, they soon pass out of his mind.

The question may be asked, can young pupils study in a logical way? To admit that they cannot do so is to admit that they cannot see things in their proper relation, and everyone who knows anything about the child's mind knows that this is not true. The child can see things in their proper relation and he does so every day. If he cannot do so in his school work, such work is not suited to him. If his reading lesson is composed of literature of the right sort, it will have some central thought. No selection of literature worthy of the child's attention is composed of thoughts of equal importance; they do not stand out on one level plain; hence the child must decide which are of greater importance. This will necessitate his arranging them in their proper order. The child must discriminate between facts, ideas, suggestions, at every turn in his work and in his play, and even the casual observer will note with what facility he does so. He does not discriminate facts in his lessons, because he is not required to do so. The teacher is content with storing his mind with what she

calls useful information, and gives him no incentive to go farther. If her standards required his arranging the facts learned in their logical order, there would be no question about his doing so.

The organization of ideas is of paramount importance, not only to the student, but to the business and professional man, to the mechanic, and, indeed, to every man, it matters not what his business may be. Success in practical affairs is largely in proportion to our ability to organize our ideas. No real student studies books; his aim is the mastery, not of books, but of subjects.

THE APPLICATION OF KNOWLEDGE

We have heard a great deal about liberal versus practical education, and the friends of the old régime scorn the practical and have much to say about the liberal, as though there were a wide divergence between the two ideas. They say that the old education was liberal because it broadened man's vision and freed him from the thraldom of ignorance. But, as a matter of fact, while it may have freed him from what the followers of the old régime would call ignorance, it did not free him from real ignorance; for it is commonly recognized that the product of the old-time education was about the most ignorant person in the world of everything he ought to have known. He knew a little Latin, a little Greek, and some calculus, but when it came to those things around him, a knowledge of which would make him free indeed, he was totally ignorant. He was completely at the mercy of his environment because he did not understand it and know how to control it so as to make it serve him. Even to-day, when so much has been said and done to bring our educational system into harmony with actual conditions, the college graduate is frequently about the

most ignorant person in the community; he is at the mercy of his environment, and, instead of being able to take hold of conditions and shape them so as to make them serve him, he must stand helpless until he has mastered those things which the school has failed to teach him. This is true not only of the graduate of the college; it is also true of the graduate of the professional school. The fact that the graduate of the law school or of the school of medicine has to go through a starving period is abundant evidence that these schools are not as practical as they should be. They may give practical information, but they do not give sufficient opportunity for the organization and application of that information.

This leads us to another important truth that we have overlooked heretofore in our school work: The question of effectiveness or efficiency in education is not solved when we have arranged the right kind of a course of study. There seems to be an idea in the minds of some that when we have filled our course of study with practical subjects we have nothing else to do. Some seem to think that, when we have eliminated the formal studies and have substituted for them bookkeeping, domestic science, manual training, and agriculture, there is nothing to do but to stand by and see the miracle wrought. As a matter of fact, however, the right kind of a course of study is but the beginning of the solution of the problem. Not only must the course of study be composed of practical subjects which meet the child's needs, but there must be opportunity in our school program for the other two steps in the educational process — the organization and the application of knowledge. The practical study may become as formal as the old-time cultural study, and will become so if the school program is not so arranged that the pupil will have time to organize what he has

learned and make application of it to his everyday needs. If such opportunity for organization and application had been insisted on heretofore, there would not be the present wide divergence between the work of the school and the pupil's needs. There would have been no such idea as knowledge for knowledge's sake.

It is true that some effort is being made to-day to give the pupil opportunity for the organization and application of his knowledge. The laboratory is supposed to be a place where the application is made of the knowledge acquired in the text; but its work has been and still is altogether too formal. The applications made are too artificial. The laboratory of the average school is not a place where a practical application is made of knowledge. In many places it is installed merely because the school authorities want to keep up with the times, and it is not organized on a broad enough basis to make a practical application of knowledge. It should be made, however, the center of school activities and organized on a large enough scale to make the practical test of all knowledge acquired in textbooks and from observation.

We do not mean that the equipment for such a laboratory must be purchased from a supply house. Some of it must be purchased that way; but such equipment is the least important. The playground is an important factor in testing information; but the best laboratory is the laboratory of the world, where the pupil comes in contact, not with artificial, man-made apparatus, and where there is a formal test made of knowledge, but with real conditions which the pupil must know when he leaves school and takes his place as an active citizen of the world. Conditions in the schools must be made such that there will not be the broad chasm between the school and practical life that there is to-day, but the two

must be brought together in such a way that one will shade off imperceptibly into the other.

Topics for Report and Investigation

1. Teaching children to study.
2. The economy of time in education.
3. Interest and attention in teaching.
4. The training of the judgment.
5. The motivation of school work.

Further Readings

Betts, G. H. *The Recitation.* Houghton Mifflin Co.

Earhart, Lida B. *Teaching Children to Study.* Houghton Mifflin Co.

Jones, O. M. *Teaching Children to Study.* Macmillan.

McMurry, Frank. *How to Study and Teaching How to Study.* Macmillan.

Strayer and Norsworthy. *How to Teach*, pp. 34–54, 55–72, 104–125, 151–170, 220–234. Macmillan.

CHAPTER XV

EDUCATIONAL MEASUREMENTS

THERE is little doubt that during the past twenty-five years there has been a large increase in the efficiency of our educational system. The schools are doing better work and they are better adapted to the needs of the children. There is better organization, a better curriculum, and better methods of instruction. However, while we are reasonably sure that much progress has been made, we have no means of knowing quantitatively the extent of such progress. We do not know how much more efficient our schools are in organization, in methods of instruction, or in the subject matter of their curricula. We have no means of knowing that the increase in the efficiency of the schools is proportionate to the increase in expenditure. We do not know how much more effective the school organization of to-day is than was that of the school of twenty-five years ago, nor do we know that this organization is better than some other that we might substitute for it. We do not know that the methods used are better than others that might be employed. In other words, we are working very much in the dark, and no doubt we should be very much surprised if we knew the facts in the case. Doubtless much of our pride and self-satisfaction would vanish if we knew just how far our educational program and procedure are below what they should be. We sometimes point with pride to this or that man or woman who has gone out from our schools, but we do not consider how much greater the success of such men and women would

have been had we employed better methods and a program of studies more adapted to their needs. It does not often occur to us that these men and women attained success in spite of what we did for them and not because of it, and we have nothing to say about the hundreds who have gone out from our schools unprepared to cope with the problems of the world. Almost any kind of a school will, in the course of several years, send out a few successful men and women. We should not, however, estimate the results of our work by the few, but by the many.

Then it is not enough for us to be able to point in twenty-five years to a few successful men and women who have gone out from our schools. It is too expensive a business to wait for twenty-five years to find out whether our work is a failure or not. Twenty-five years is a long time, and in that time those who go out from the schools have opportunity to come in contact with many things that will counteract the bad work we may have done, and, on the other hand, they have many opportunities to render void the good work we have done. One of the chief weaknesses of our educational system, and one that has permitted more downright fraud and covered up more incompetency than anything else, is the fact that we have not been able to evaluate our work at the time it is being done. Before our schools become the efficient institutions they should be and command the respect and confidence on the part of the public they should command, we must be able to evaluate our work from day to day. We must cease to talk in general terms as to the efficiency of the schools. When we say that we have an efficient school system, we must be able to give evidence to substantiate that fact. The measuring of school efficiency by personal opinion is one

of the poorest methods of measurement. Those who are most competent to pass such an opinion are the last ones to do so, and they are making the greatest effort to devise some tests and standards whereby the work of the schools may be measured with some degree of accuracy and mathematical precision.

We realize that there are some who think that the work of the schools cannot be measured from day to day or even from month to month. There are some who feel that there are some things in the schools that cannot be measured. The tone, the atmosphere, the spirit of the school, it is said, are things that will not submit to the measuring rod, and, no doubt, this is true. But, on the other hand, it can be said that, while such things cannot themselves be measured, if they possess value they will result in something that can be measured. If the spirit of the school does not help the boy or girl to learn his arithmetic or grammar lesson more easily and more tho iroughly,t is not the right kind of a spirit. We hear a good deal of talk about the unconscious influence of the teacher, and surely everyone is willing to acknowledge that such an influence is important. But such influence, if it is the right kind, will cause the child to make more rapid progress in his school work. Every one of us knows that those teachers with the greatest amount of such influence were the ones who were most successful in cramming into our heads the facts and principles of arithmetic, geography, and the other studies. If we look back over our own teachers, do we not find that the best ones were those who brought about in us the greatest amount of measurable results? We do not think much of those teachers who, though seemingly rich in their unconscious influence, left us without anything substantial to show for it.

SELF-COMPARISON

Then there are those who question the advisability of applying tests and standards to the work of the schools because they feel that it is unfair to compare the work of one pupil with that of another. Pupils are not alike in any particular, and it is unfair to expect them to accomplish like results. Without doubt it would be unfair to measure all pupils by the same measuring rod; however, it must be remembered that it is not the purpose of educational measurements to compare pupil with pupil, or even school system with school system. The chief aim is to enable a school or school system to compare its own work at different periods. The aim is to discover differences in results and to determine the cause or causes of such differences. If the children of our schools are not as proficient in language or arithmetic as they were this time last year, we want to know the cause. If we are paying more per student hour than we paid last year, we want to know the cause. Educational measurement thus enables us to compare our own work at different periods and to determine what progress we are making.

COMPARISON WITH OTHERS

These measurements also possess great value in that they enable us to know how our own schools rank with other good schools of the country. We find out what other schools are paying for janitors, for teachers, for principals, and other supervisors; we know how the pupils of other schools rank in the several school branches, and we are able to determine how we stand in comparison with them. It is quite a revelation to a school system to discover that it is paying more per student hour and attaining poorer results. Such a school is likely to

search out the cause and do all in its power to remedy it, whereas if it did not find out these things it might go on in blissful ignorance and inefficiency. Thus, while it is unfair to compare individual with individual, much good comes from comparing group with group, and this is one of the aims of educational measurements.

There is one thing that we must remember when considering this question of measurements, and that is that education means change. The child who does not increase in knowledge, ideals, or good habits is not being educated, and we have acted on the presumption all the time that such things can be measured. Even those who are most opposed to scientific measurements in education will resort to the old-time examinations to determine whether the pupil has made satisfactory progress in his school work. Until recently no one thought of questioning the efficacy of such a standard of measurement. But now we are finding out that the old-time method of examination and grading is wholly unreliable, and the movement toward the new standards and tests is an effort to substitute scientific measurement for the old-time examinations and methods of grading. It is an effort to substitute accuracy for inaccuracy, scientific procedure for unscientific procedure.

In the past, momentous questions of school organization and school policy have been determined by the old-time examinations and methods of grading. These have been the sole basis for promotion, retardation, class honors, and admission to college. However, it has been proved that such a system of grading is wholly unreliable and that there is no standard of value by which it is governed. We make 100 the basis; but 100 does not mean the same to any two teachers. One teacher will range the grades between 60 and 100, another between

50 and 100, and another between 25 and 100. With one 80 is an excellent grade; with another, it is poor. One teacher will put 75 per cent of her pupils above 90, while another will not put more than 10 per cent above 90. In fact, no two teachers have the same standards or follow the same practice in grading.

OLD-TIME EXAMINATION UNRELIABLE

In order to test the reliability of grades, 142 exact copies, including handwriting, errors, changes, neatness, etc., were made of two examination papers prepared by two first-year English pupils, and these were sent to 142 teachers of first-year English in some of the standard high schools of the country who were asked to grade them according to their own standards and practices. The grades on paper A, let us call it, ranged from 64 to 98, and the great majority of the grades were between 78 and 95. The grades on paper B ranged from 50 to 98, and the majority of grades on it were between 75 and 91. Thus we can see that if the destiny of a pupil depends upon his passing first-year English, he would better look well to the one who is to grade his paper. Five teachers gave paper A a failing grade and 137 a passing grade; 27 gave paper B a failing grade and 115 a passing grade. Nineteen teachers marked paper A 80 or below and 14 marked it 95 or above.

Of course we expect teachers to assign different marks to English papers, because there is so much ground for individual judgment. But when we come to mathematics we do not expect the same variability. However, the facts show that teachers differ as widely in their marks in mathematics as in English. As evidence of this, 118 exact copies of a paper in geometry were made and were graded by 118 teachers of mathematics. The grades on

the paper ranged from 27 to 92. Of the grades, 61 were 70 or above and 57 were below 70. This shows that a paper in geometry is no more likely to be graded correctly than a paper in English. While there can be little ground for difference of opinion as to the correctness of the demonstration, there is a vast difference of opinion as to how that demonstration should be made and the steps in making it.

The grades on a history paper graded by 70 teachers of history, in the same manner as the paper in English and geometry, were distributed about as widely as were the grades on these papers. Of the grades, 41 were 70 or above and 29 were below 70; 12 of the grades were above 80 and 18 were below 60. Thus it can be seen that the grades usually assigned by teachers are wholly unreliable. A grade of 90 given by a teacher in Amarillo may be a grade of 60 for a teacher in Hereford. When a student comes to us from another school, we do not have the least idea as to the meaning of the grades he brings to us. A grade of 90 in mathematics in Amarillo High School may mean that the pupil is very good or very poor when estimated by the teacher of mathematics in Plainview or Lubbock. It all depends in each case upon the standards of value used.

Then, granting that grades are fairly accurate and that teachers will give about the same grade on the same paper, we must still admit that such a system of evaluation tells us little or nothing as to the progress the pupil is making in his work. We mark him 90 in reading this year; we mark him the same 90 next year. This means that we think he has attained to within 90 per cent of the standards we have set for him for the different grades, but it tells us nothing as to what these standards are. One teacher has one standard in mind

for a reading in the fifth grade; another has another standard, and so on for the other grades. No two teachers have the same standards for either of these grades. We can tell nothing from such measurements, either as to the child's reading ability or as to his progress in reading. We should have a standard by which we can say that the second-grade child should make a mark of 35, for instance, the third-grade child a mark of 50, the fourth-grade child a mark of 75, and so on. If we had such a standard, we could tell what progress the child makes from year to year, and we could tell, too, when he has reached the desired degree of proficiency in reading. We could then let him drop reading as a school subject and devote his time to other subjects in which he was below the standard, or we could let him advance to a higher grade. As conditions are now, we make all the children in the room read, write, spell, and figure together regardless of the degree of proficiency they have attained. When a child has acquired the degree of proficiency required of a fifth-grade pupil in reading, writing, or arithmetic, there is no good reason why he should be required to study that subject with other fifth-graders.

STANDARD TESTS

Tests that approach a high degree of reliability have already been prepared for reading, spelling, grammar, composition, and a number of other school subjects. For example, Dr. Starch of the University of Wisconsin has prepared a spelling test by taking the second word on every even-numbered page of *Webster's New International Dictionary*, discarding 586 technical, scientific, and obsolete words and arranging the remaining 600 into six groups of 100 words each and of the same degree of difficulty in spelling. Thus the pupil who can spell all

of these words can spell 100 per cent of the commoner words in the English language. By giving the tests to thousands of school children over the country, it has been found that first-grade pupils spell correctly 10 words, second-grade pupils 30 words, third-graders 40 words, fourth-graders 51, fifth-graders 61, sixth-graders 71, seventh-graders 78, and eighth-graders 85. Thus we have a standard of attainment in spelling. If our children can come up to these standards, we may know that they spell well enough; if they do not come up to these standards, we know that they are not spelling as well as they should, and if they go far beyond the standard, we may know that we are devoting more time to spelling than is necessary. We can see, too, how the individual pupil is progressing from grade to grade. This test gives a means of comparing his spelling ability now with that of a year ago and of knowing the progress he is making in spelling. In the common system, when we mark the pupil 90 this year and 90 again next year, we have no means of knowing either his ability in spelling or his progress from year to year.

RELATIVE EMPHASIS TO BE PLACED ON SUBJECTS

The scientific standard tests will also render valuable service to the schools in that they help us determine how much emphasis should be placed on the several subjects. Many schools are putting more emphasis on English grammar, for instance, than is necessary. The teacher, the principal, or the superintendent of such schools believes in the educational efficacy of English grammar and frequently emphasizes it to the neglect of other subjects. The best school system, other things being equal, is that which keeps a proper balance between the several subjects and emphasizes each subject no more than is necessary for practical purposes. Some schools

put undue emphasis on geography, some on handwriting, some on arithmetic, and others on music and drawing. That is, they put more time than can be afforded for these subjects when we consider the needs of the other subjects.

The scientific measurements will also enable us to adjust the costs of the several subjects. When Latin costs five times as much per student hour as English or history, we may know there is something wrong. Either the cost of Latin should be reduced or the subject should be dropped from the curriculum. It is nonsense for us to retain a subject as a part of our curriculum regardless of the cost and regardless of its educational value.

THE RELATIVE WORTH OF SUBJECTS

There is another phase of educational measurement that has received but little attention up to this time, and that is that of evaluating the several subjects. We say algebra has great educational value in that it cultivates certain powers needed in after-life, but in this judgment we are controlled almost wholly by tradition. We say algebra develops the power of concentration, of accuracy, of thoroughness, etc.; but do we know scientifically that this is true? Some of our greatest educational thinkers tell us that there is no such thing as a general ability along these lines. Those of you who have carefully read Dr. Moore's *What Is Education?* were impressed with the weight of his arguments and there is in your minds, to put it mildly, a doubt as to the existence of a general ability along any line. To say the least, we do not absolutely know that we are offering the child in our schools the subjects that have for him the greatest educational value, nor do we know that we are offering the subjects we do offer in such a way as to make them

count for most in the child's education. Of course, great advances must be made in educational psychology before the pathway along this line is as clear as it should be; however, we have more light than we are using. We follow blindly the path of tradition, using the same school organization, the same methods, and the same curriculum our fathers used, and we seem to have the utmost faith in their transforming power. Most of us need not be quite so sure of the efficacy of the old-time educational régime. A small degree of skepticism, to say the least, would be a good thing for us. It is such skepticism that is awakening a spirit of progress in the educational system of our country. It is causing our educational leaders to attempt to evaluate our educational program and to adopt a system of organization, methods of instruction, and courses of study that will bring about the highest degree of social efficiency among our people. Of course the methods of evaluation offered up to this time are not scientifically perfect, but they have attained a high degree of perfection in several instances, and with the hearty coöperation of the school people of the country in trying out such methods we may expect even greater things in the future. Surely no progressive student of educational problems can close his eyes to what is being done.

Topics for Report and Investigation

1. Quantitative measurement of school work.
2. The defects of the old-time system of grading with 100 as the basis.
3. Some of the scientific standard tests in the common branches.
4. Individual differences among children and their bearing on school work.
5. The application of the standard tests in evaluating the work of the schools.

Further Readings

Starch, George D. *Educational Measurements.* Macmillan.
Strayer and Norsworthy. *How to Teach*, pp. 234–294. Macmillan.
Strayer, George D. *A Brief Course in the Teaching Process*, pp. 247–265. Macmillan.
Thorndike, E. L. *Principles of Teaching.* A. G. Seiler.
The School Surveys of Newton, Massachusetts; Butte, Montana; Portland, Oregon; San Antonio, Texas, and Cleveland, Ohio.

CHAPTER XVI

THE LARGER SERVICE OF THE HIGH SCHOOL

THE ascendancy of the American high school has been one of the marvelous expressions of the development of educational organization in recent times. Our faith in the larger service that it will render in the future will be strengthened by a brief review of its development within the past two decades. Within the past twenty years the number of pupils attending secondary schools has grown from 365,000 to 1,130,000 in the United States. This is an increase of 210 per cent, while our population during the same period increased only 47 per cent. Twenty years ago there were only about 2,500 public high schools; now there are approximately 11,500. Not only have these schools been made accessible within the past decade to children living in urban districts, but high schools are being erected with marvelous rapidity in the remote rural sections of our country.

The internal changes in the secondary schools have not been less remarkable than the increase in attendance. High-school buildings and equipment at the present far exceed the buildings and equipment of the better-class colleges of a generation ago. The course of study has been greatly extended and enriched within the last few years. New demands are constantly being made upon the secondary schools, and they have responded to these demands more adequately and effectively than any other type of educational agency. The public high schools within the last few years have attempted to perform services that we could have not conceived of ten years ago.

The high school began its services with the aim of

developing the purely intellectual powers of the pupils intrusted to its care. This function resulted in a standing course of study with fixed limitation of subject matter, requiring limited equipment and teachers with a generalized training. The new demands forced employment of teachers of specialized training and an enormous extension of laboratory and library facilities. We have seen manual training and home economics incorporated in the course of study in the best high schools as the result of ever-changing demands of our social situation. None of us is justified in saying that the high school has reached the limit of its scope of social service. Whatever special task may be assigned in the future, we cannot fail to recognize the enlarging of its scope of service within the last decade. If we can use the history of high-school development in the past to help us prophesy the trend of high school education for the future, it may save us the loss of much social energy and better enable us to adjust our educational machinery to social demands. Mindful of this past history, we wish to suggest three possibilities for the enlargement of service of the public high schools of the future:

1. What are the possibilities that the present high school will ultimately extend the number of years of instruction and the scope of study until it will take the rank of a junior college?

2. What are the possibilities of advancement of home-credit work in connection with high-school instruction?

3. What are the extension-service possibilities of the public high school?

TREND OF HIGH-SCHOOL REORGANIZATION

There seems to be a decided trend toward the establishment of junior colleges. As yet these colleges have

not been the outgrowth of secondary schools. Some of these schools started out as regular four-year colleges, but in the interest of efficiency and thoroughness their courses have largely been reduced to two years of college-grade work. In a few cases institutions have been established with no other intention than to develop high-grade junior colleges.

There seems to be a decided trend at the present time in the direction of subdividing the secondary schools into two administrative units—at least this is the tendency in a number of our city school systems. We are coming more and more to feel that secondary education should begin with the twelfth year. The open question is as to where it shall end. The advocates of the junior high school would say at the end of the eighteenth year. They would contend that this plan should be developed into (1) a junior high school of three years, which would take the pupil through his fifteenth year; (2) a senior high school, also three years in length, extending from the fifteenth to the pupil's eighteenth year. The present trend of the public high school is toward extending its limits and toward reorganizing on a "six-and-six" plan.[1]

The tendency to extend the limit upward to include the Freshman and Sophomore years of collegiate instruction has not appeared above the surface, but it seems that we might ask with reasonable seriousness: What is the likelihood that the high school will develop such a tendency and is such a development desirable? Attention is directed to a few factors that have a bearing on the situation: (1) Recent years have witnessed a remarkable increase in the admission requirements in the professional schools and especially schools of medicine and law. Many

[1] See Calvin Olin Davis' discussion of this question in *High School Education*, pp. 75–78, by Charles H. Johnson and others.

of the better medical schools require one or two years of college training as a prerequisite to the first year's work. Some even require graduation from a reputable college for admission to the Freshman year of professional training. This has created a demand for pre-technical or pre-professional courses. It has been assumed that the student would get these courses in standard colleges. But this assumption is open to serious question if this training is to be for only one or two years. The demands of the future will probably require the high school to consider demands resulting from gradually increased entrance requirements. (2) In the second place, entrance requirements of all standard colleges are being steadily raised. The more important universities and colleges are concentrating their efforts upon research and professional training. In practically all the colleges and universities the Freshman and Sophomore classes are increasing numerically with great rapidity. It is exceedingly expensive to provide the laboratory facilities necessary to accommodate adequately large Freshman and Sophomore classes. The most important colleges and universities will gradually increase their entrance requirements as a means of reducing the number of students in the beginning years of college work. This will mean that the responsibility of preparing students for senior-college and university work will be shifted to the high schools. The local social pressure will then exert itself as it has done in many similar instances to compel the high school to extend its course of study to meet the new standard requirements of our higher institutions of learning. The colleges have already dropped their preparatory academic departments that were so long associated with them, and the entire trend of collegiate organization is distinctly upward. As the gap widens between the

high school and the college the demand will increase for the high school to fill it with an adequate course of collegiate grade.

It is not contemplated, of course, that every high school will evolve into a junior college any more than that every junior high school will develop into a senior high school, but there is undoubtedly a well-developed sentiment that we should take educational opportunities to the people. A logical means of accomplishing this end will be the development of junior colleges in strategic positions in the city and elsewhere, easily accessible to the students from both the urban and rural senior high schools. There are distinct advantages in this plan. Many people hesitate to send their children several hundred miles away to college at the age of sixteen or seventeen, as their habits of life have not become definitely determined. The expense, including railway fare and board, is an important factor in the problem of attending college away from home, especially for a series of years approximating from four to seven years. It is obvious that all the reasons for the differentiated high school, supplemented with the reasons here suggested, give validity to the junior-college idea.

HOME CREDIT FOR HIGH-SCHOOL WORK

However remote may appear the vertical tendency of the high school, the latitudinal tendency is a social phenomenon recognized by all. Subject after subject has been added to the high-school curriculum. We no longer justify the inclusion of a subject on disciplinary grounds, but we now seek justification on the basis of the subject's content value. The demand of the public has created social pressure to add this subject or that, until not only has the secondary school been compelled

to recognize the elective system in the selection of subjects, but even differentiated courses have been provided. With this latter tendency has come the larger demand for the recognition of the social relation of the high school to community welfare. We wish to direct your attention to this tendency under two headings: (1) home credit for high-school work as the means of articulating the interests and activities of the home with the public school; (2) the extension-service possibilities of the public high school.

The home-credit plan of correlating the interests and activities of the school and the home has possibilities beyond our present powers of comprehension. There has been a belief in the minds of school officials for many years that some method should be developed to unite the mutual interests of home and school. Various experiments have been tried in the past, but none of them seems to have accomplished the purpose in a satisfactory way. It appears that the home-credit plan now in operation in various places throughout the country holds out most hope for the accomplishment of this object.

To the best knowledge of the authors, Superintendent L. R. Alderman of Oregon was the first to give credit for home-study work. His explanation of the way in which he came to try out this idea is related in an interesting way in a pamphlet called *School Industrial Credit for Home Industrial Work*. He says:

> The idea of giving school credit for home work first occurred to me nine years ago when I was a school principal. I had noticed that one of my rosiest-cheeked, most vigorous appearing girls spent much time on the streets after school. One day Mary's mother was pointed out to me. She was a pale, nervous little woman with several children. Knowing that the family was not very well to do, I felt myself burning with indignation at the circumstances that were drawing Mary away from interest in her home. I thought,

"What is the use of my teaching that girl algebra and general history when what she most needs to be taught is that her mother is her best friend and needs her help?"

At the algebra recitation the next day I announced that the lesson for the following day would consist of ten problems as usual, but that five would be in the book and five out of the book. The five out of the book would consist, for the girls, of helping cook supper, preparing breakfast, and putting a bedroom in order. When I asked for "hands up" on all the problems the following day, I noticed that Mary kept her hand raised after the others were down. "What is it?" I asked. "I worked five in advance," she replied with sparkling eyes. "I worked five ahead in the book besides the ten that you gave us." From that time Mary's interest in all school work was doubled. She was right up in the first rank. The rest of the year we regularly talked over the girls' home work. School public opinion encouraged the girls so that more and more reported on what they had done in housework and sewing, and felt proud of it. Best of all, our discussions brought the school and the home together. The year was successful for all of us. More parents visited the school and there was a concerted movement for the betterment of school conditions.

The plan has been amplified and developed in many different ways in recent years. Some failures have resulted from defective outlines and unsatisfactory explanations, while the most successful efforts in this direction seem to grow out of carefully outlined home projects. The Massachusetts plan has been well developed and it is now in successful operation in many parts of that state. It is based entirely on the project system. While the nature of projects are somewhat subject to local conditions, there can be considerable uniformity in the project submitted for home-credit work. The Extension Division of the University of Illinois issued a bulletin in March, 1903, called *Home Projects for School Agriculture*. This bulletin carefully outlines twelve projects as follows: (1) poultry raising, (2) keeping dairy cow, (3) raising a litter of pigs, (4) care of fruit trees,

(5) tomato raising, (6) potato raising, (7) landscaping home grounds, (8) vegetable gardening, (9) growing alfalfa, (10) planting a catalpa crop, (11) growing a plot of corn, and (12) some insect study. Each project is divided into five sections. Section 1 gives specific instructions as to selection of stock, and a paper is required on reasons for selection and the history of the breed of stock chosen. Section 2 gives instruction concerning the care or cultivation. Section 3 directs attention to methods of keeping records. Section 4 directs attention to kinds of equipment and methods of its construction. Section 5 gives a list of briefs and practical references for use in connection with the projects. All plans require frequent reports as to progress, time devoted to the project, and the results being obtained.

The benefits of this type of instruction and correlation are incalculable. It not only insures the closest possible sympathy between home and school; it simply means the extending of the laboratories of the high school to the home and the field. It transforms the home community into a vast laboratory in the interest of practical instruction. It is true, these projects cannot have the personal supervision of the teacher like laboratory experiments and field practice on the school farm, but what is lost in personal supervision is usually compensated for in the larger interest and, therefore, in the more faithful efforts resulting from the work being done under normal conditions. There is every reason to believe that we may expect the home-credit plan of high-school study to become practically universal within the course of a few years. With this accomplished, undoubtedly the high school will lay the foundation for its larger service in its work of extension, which we wish to discuss as an appropriate and proper function of high-school activity.

THE SCOPE AND LIMITATION OF HIGH-SCHOOL EXTENSION

While we have seen fit to discuss the home-project work as a separate possibility of the high school, in reality it is quite obvious that it is a form of extension teaching. In our own thinking, it occurs to us that home-credit work as indicated above is the connecting link between formal intermural instruction and extension proper.

The activities of educational extension service have undergone rapid changes within the last three or four years. They have manifested themselves in the lyceum courses and Chautauqua movements, correspondence courses, debating leagues, farm institutes, and in numerous other forms. Many of the great industrial corporations, like the International Harvester Company, are doing very important extension work. In fact, the exploitation of every useful device is in an important sense extension work. Now, the high school in an informal way has done and is doing some of this work. But cannot the high school, through more formal efforts, do a great deal more without decreasing its efficiency or misdirecting its endeavors?

We may safely assume that the state universities and colleges will be expected to render expert service to the people of the state through organizations of engineering, agriculture, and home economics. The only question that has not been definitely settled is that of the agents through which these institutions will carry this knowledge to the people. Those responsible for the administering of public funds for the promoting of the cause of educational extension realize the necessity of directing their endeavors through community institutions and agencies. It is hopeless in large states to expect a group of experts to reach any considerable number of people through direct endeavors. The policy is already developing of

using social institutional agencies as an immediate means of disseminating special types of information. It occurs to us that all of us must look more and more to the public high schools as one of the most effective agencies through which to extend a body of public information. To put the thought in concrete terms, an illustration will be given of the possibilities of coöperation between the agricultural college and a local high school. The instructor in agriculture in charge of the department in a high school can greatly increase his service to the community by enlisting the help of the agricultural expert in the department of extension at the agricultural college. He could plan local farmers' institutes from time to time and invite expert assistants from the college. He could be influential in assisting at the county fair in formulating and planning the county agricultural exhibit. All these suggestions as to the instructor in agriculture would apply with equal force to the teacher of home economics.

No contention is made in this discussion that the high school should provide a corps of extramural teachers for community service. While that is not an impossible thing for the remote future, it is certainly not a possibility of the immediate future. It is recognized also that as a rule the high-school teaching force has little time for a large amount of constructive community effort. Nevertheless, it is believed that the quickest way to secure additional teachers to relieve this burden is for the present teaching force to render large service to the community.

In many communities high-school teachers are doing extension work without recognizing it. They are teaching in the Sunday school, serving on important committees relating to civic improvements and community welfare, directing reading circles, and doing other such work in ways too numerous to mention.

It is believed, however, that the extension service of the public school would gain in effectiveness by organizing for more definite service in the interest of community betterment. High-school teachers are no longer unskilled men and women. The scope of the curriculum has made specialization necessary as a qualification for teaching in a high school. Perhaps the best teaching that is being done to-day is to be found in the high schools. Should not the community conserve and use the talents of these men and women in every possible way? It seems desirable that the larger and better organized high schools should have a committee on extension. This committee should be charged with the duty of studying the possible lines of service that the high school could follow in serving the complex needs of the community. The work of extending knowledge must be organized in some center. We cannot expect the community to know or to realize the possibilities of the high-school force as we know them, but with proper organization we would challenge the community to invite the high school to help in the solution of community problems.

CONCLUSION

The organization and policy of the high school of the future are already foreshadowed in the tendencies to which attention has been directed. There will be the junior high school and the senior high school and the junior college so articulated as to constitute one unit. The high school of the present is the most energized of our educational institutions. It has already expanded downward, and we prophesy that it is destined to expand upward, and in no less degree will its expansion be lateral. Our hope and prophecy for the high school of the future is that it will keep its organization sufficiently flexible to

meet the ever-changing demands of new situations. We must not forget that, however valuable the material equipment, and however costly our high-school plants, the high school cannot save the cause of education because of its boasted equipment or palatial housing. Its aims must be definite. Its course of study must be adaptable. It must maintain its relation to higher education without at the same time sacrificing its responsibility to community needs. We must recognize the latent possibilities of the high schools. To assume that the present type of secondary school represents the limits of its possibilities would be to shut our eyes to the most obvious fact in the educational situation of to-day.

Topics for Report and Investigation

1. A program of home work for boys.
2. A program of home work for girls.
3. An argument *for* a six-year high-school course.
4. An argument *against* a six-year high-school course.
5. The place of the junior college in our educational system.

Further Readings

Boynton, E. D. "A Six-Year High-School Course," *Educational Review*, XX, 5, 15–19.

Cubberley, E. P. *Changing Conceptions in Education.* Houghton Mifflin Co.

Dewey, John. *Schools of To-morrow*, chapter viii, "The Relation of the School to the Community."

Eliot, Charles W. "Changes Needed in American Secondary Education," *Occasional Papers*, No. 2, General Education Board.

Hall, G. S. "The High School as the People's College," *Pedagogical Seminar*, IX, 63.

Harper, W. R. "The High School of the Future," *School Review*, XI, 1–3.

Johnson, Charles H., and Others. *High School Education.* Scribner.

Liddeke, F. "Extension of the High School Course," *School Review*, XII,635–647.

Monroe, Paul. *Principles of Secondary Education.* Macmillan.

CHAPTER XVII

THE EDUCATIONAL SURVEY—ITS PURPOSES AND POSSIBILITIES

THE problems of maintaining educational standards, of increasing the virility and stimulating the efforts of the teaching force, of adjusting courses of study to the ever-changing social situations, and of determining the efficiency of the school plant and its equipment should be matters of constant concern to those engaged in administrative educational work. There should be unceasing attention given to standards and efficiency if progress in school work is to be maintained. Educational institutions maintained at public expense are continually having their activities scrutinized and their standards reviewed by the public. City councils and state legislatures are concerned about the per capita cost of the physical plant for which the taxpayers are required to provide funds. There has been in recent years an increasing demand on the part of the public that school authorities be required to present data that give evidence of having been secured with a reasonable degree of accuracy. This is not a thing to be despised. It is one of the endless means of social control. It is perhaps the surest means of preventing us from becoming indifferent to the maintenance of standards that will insure reasonable results from the efforts and funds expended.

These conditions have been largely responsible for educational surveys that have come into such general practice within the last few years. More and more the experience of private business has reflected itself in school activities. The expenditure of a half billion dollars on

higher education in 600 colleges and universities attended by approximately 400,000 students is too large an enterprise to leave to haphazard methods. The great city school systems, with hundreds of teachers and thousands of students and millions invested in school buildings and equipment, demand some measurement by which the public can determine the returns from such an outlay. If a system of measurement is desirable for a college and a city, it is even more important for a great system of schools of various types maintained by the state. The most gigantic educational enterprise that has been undertaken has been that of surveying the entire educational situation of an entire American commonwealth. As the educational survey idea is now in the ascendency, it seems well to consider in more detail some of the aspects of it as an educational problem.

THE GENESIS OF THE SURVEY MOVEMENT

Foreign educational surveys had a comparatively early beginning. For example, there was a Swiss survey made in 1799 by Minister Stapfer in accordance with a decree of the Helvetian Directory of May 2, 1798.[1] In this connection a questionnaire was sent out to the different cantonal schools, and the information acquired was used in much the same way as is that of the modern survey.

English surveys are reported by the same authority as having been made between 1861 and 1869. Several of these were based upon orders issued by the House of Commons, and the work was conducted by experts. Recent developments of the educational survey in this country have probably come directly from two sources: (1) The geological survey, soil survey, and certain social surveys have suggested the application of similar methods

of collecting facts for information and guidance in educational policies. (2) The increasing tendency toward supervision and inspection of instructional methods has suggested a more formal and systematic collection of data as a means of more definite knowledge of teaching standards.

In recent years the scope of the survey has been greatly extended. Farm management, rural churches, and many special community problems, both in the city and in the country, have been the subjects of more or less important and accurate investigations through survey methods.

THE PARTS OF THE EDUCATIONAL SURVEY

The systematic survey comprehends the following well-defined features:

1. *Securing the facts.* The survey is justified on the ground that its conclusions are based upon accurate information rather than upon mere conjecture or opinion. A thorough investigation of the actual facts and conditions is the first step in the problem. These facts are supposed to be acquired by trained investigators acting as reporters of what is seen and heard, or through information contained in a carefully prepared questionnaire. The facts acquired should not only be reasonably accurate, but a sufficient number of them should be available to justify the conclusions reached from them.

2. *Analysis and interpretation of facts.* Once the data are assembled, the question arises as to their meaning. The second characteristic, therefore, is the analysis and interpretation of the data acquired. Much depends upon the correct analysis of the facts acquired and the interpretation given to them. For example, suppose that

[1] Mahoney, "Some Foreign Educational Surveys," *Bulletin No. 37*, 1915, United States Bureau of Education.

an abnormally large number of pupils in the elementary grades are overage. In other words, a number of pupils are one or two years above the normal age of the children ordinarily found in each of the primary grades. Do these facts indicate that this condition is due to overcrowded school conditions, or is it traceable to poor teaching?

Let us take another example. Suppose that in the investigation of a certain school system it is found that an unusually large percentage of the students drop out of school between the time of entering the high school and the close of the Senior year. Is this condition due to a defective high-school system, poor teaching, economic conditions, or some other cause? Obviously it is as important to interpret the facts wisely as to analyze them correctly. The facts should be organized and proper correlations established if they are to be given a correct interpretation. This implies that the principle of interpretation involves an acquaintance with many correlating factors that may lie outside of the particular facts acquired by the investigator.

3. *Constructive recommendations.* The object of the accumulation and analysis of data and their intelligent interpretation is to promote a more efficient organization. The third step, therefore, is the formulation of constructive recommendations for the improvement of the system. Constructive recommendations depend upon two factors: (*a*) the accuracy and adequacy of the method and results of the previous steps; (*b*) familiarity with similar educational systems and the results obtained under different conditions. This may be regarded as a check upon the interpretation of the facts acquired.

4. *The formal presentation of the data.* This requires considerable art and skill and a familiarity with statistical principles and methods. It is one thing to be certain of

your conclusion. It is quite another thing to present it in such an attractive and convincing way as to carry conviction to those for whose benefit the survey has been made.

5. *Checkiug-up processes.* Finally, if the best results are to follow from the efforts expended, some means must be devised to check up the educational system that has been surveyed, in order to determine to what extent the constructive recommendations have been accepted and followed. This has been a neglected element in most of the surveys that have been made. It has too often been assumed that all that was necessary was to reveal the defects in the educational system and that it would naturally follow that they would be corrected. Unless the school authorities are in sympathy with the conclusions and convinced of the validity of the recommendations, it is likely that nothing will be done to put into effect the recommendations that are made. It should not be assumed, therefore, that a survey is complete when the report is made involving constructive recommendations. The wiser plan would be to provide that those responsible for the survey should be required to check up the system from time to time, during two or three years (the length of time depending upon the nature and extent of the survey), and that supplementary reports be presented concerning the progress of adjusting the system to the recommendations made.

TYPES OF EDUCATIONAL SURVEYS

It is difficult to classify surveys in a general way, but the educational surveys may be grouped as follows:

1. *Geographical surveys.* Under this head we may group those general educational surveys that relate to an entire state, county, or township, and a school system

of a city. This class of surveys may be illustrated by the surveys made under the direction of the United States Commissioner of Education of the school system of Colorado[1] and that of the state of Wyoming.[2] A notable city survey is that of Portland, Oregon, made under the general direction of Professor Ellwood P. Cubberley. A typical county survey is that by M. L. Duggan of Raybourn County, Georgia.

2. *The specialized survey.* Such surveys relate to special classes of institutions, or particular subjects, departments, or aspects of education. For example, the surveys of the state higher educational institutions of Iowa and of North Dakota made under the direction of the United States Commissioner of Education[3] are restricted to a special class of institutions and do not comprehend the entire educational system. Several important surveys of rural schools might come under this classification; for example, the survey of the rural schools of Travis County made by Mr. E. E. Davis of the University of Texas.

Educational surveys may also be classified with reference to the agency through which the survey is conducted. Differentiated in this way, educational surveys may be classified as follows: (*a*) surveys conducted by a committee of experts selected because of their special fitness; most of the notable surveys of states and cities and particular institutions have been made in this way; (*b*) self-surveys; these are made by specially appointed representatives connected with the system that is to be surveyed. This type of survey has been strongly commended by Mr. William H. Allen[4] and seems to represent

[1] *Bulletin No. 5*, 1917, Bureau of Education.
[2] *Bulletin No. 29*, 1916.
[3] *Bulletins Nos. 19* and *27*, 1916, U. S. Department of Education.
[4] *Self-Surveys of Colleges and Universities.*

the natural, constructive method of evaluating an educational system.

THE ADVANTAGES AND DISADVANTAGES OF THE SURVEY METHODS

The appraisal of educational surveys is difficult to make. That many of them have not fulfilled all of the promises inherent in them is obvious to the student of educational problems. Disappointments have resulted in some cases from three very obvious defects: (1) Many of the surveys have been made by so-called survey experts who were brought together from fields of service more or less removed from the educational system that is to be examined. These experts are strangers to many economic, social, and traditional factors that will not yield to statistical measurement. The time is often too short for the surveying committee to consider thoroughly the historical development and the personal equations in a particular school situation. These factors have defeated the ends sought in several surveys that have been made. (2) In the second place, the survey has been launched on such a comprehensive plan that it has been impossible in the time allotted for the survey to secure all the necessary data upon which to base accurate conclusions. (3) In the third place, as previously indicated, no "follow-up" plan is provided for checking up the school system to see if the proposed remedies and recommendations have been put into effect.

It would appear that these difficulties may be partially overcome by self-surveys. The study of a school system by those who are both capable and intimately acquainted with all the conditions that enter into it seems to offer a rather inviting opportunity. The advantage of the self-survey is that it need not be an abnormal

or unusual thing. It gives opportunity for continuous investigation of this or that aspect of the school activities and provides a means of checking up and evaluating every department and activity of it. The timeliness of the survey is an important factor in preventing academic atrophy, or too long protracted ineffective efforts. The self-survey, however, is subject to the objection that those intimately associated with an institution are often blinded to defects that are very obvious to others. This defect can be partially remedied by inviting one or more educational experts from the outside to coöperate in the enterprise. It is not intended to underestimate the importance of the work that has been done by specially appointed surveying committees. The report of the investigating committee of the University of Kentucky can be heartily commended as a thoroughly constructive document and free from endless academic discussions of theoretical problems that are often found in survey literature. But the authorities of the University of Kentucky were not only fortunate in the personeln of the committee, but the committee had the advantage of dealing with a specific problem that yielded important facts upon which to base its conclusions. The same may be said with reference to the Portland survey and many county surveys that have been made. A study of the surveys of state educational systems has been rather disappointing. Some of the state surveys were inspired by wrong motives and, instead of resulting in constructive effort, they have often intensified local jealousies and led to distrust rather than to harmony and coöperation. There is also to be found in some of these surveys a large amount of academic discussion that has no relation to the facts developed. The impartial critic is almost compelled to conclude that the attempts made

to survey an entire state system of public education have not justified the expenditure of money and energy expended upon them.

But an educational survey properly conducted has a rightful place in the educational policies of the country. There can be no efficient system of schools where the work of to-morrow is like that of to-day; where the plans of this year are like those of last year; where the teacher is satisfied to use exactly the same methods and devices this term that were used last term. We have learned that buildings and machinery and teachers alone do not constitute an efficient school system. To these must be added efficient organization, teachers with adequate specialized training and experience, and students with proper habits of study, all of these constantly being applied and directed in the best possible way.

It is not sufficient *to believe* that we possess all of these elements. The public demands that some means be provided by which the efficiency of the school system may be measured. New means are being devised by the aid of which this or that aspect of educational effort can be measured. These are being placed in the hands of surveying committees, and increasing intelligence will enable us to use them more wisely. "The question is no longer shall we or shall we not have our school surveyed," says William H. Allen, "but how thoroughly, how helpfully, and how continuously it shall be surveyed."